


1992

Marine Spill Response Corporation (MSRC): How it Hopes to Fill the Oil Recovery Requirements of the Oil Pollution Act of 1990

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Major Paper of
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March, 1992

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Dennis W. Nixon
Major Professor

Marine Spill Response Corporation (MSRC)

How It Hopes to Fill the Oil Recovery Requirements of the
Oil Pollution Act of 1990.

by

Gerald P. O'Reilly

A major paper submitted in partial fulfillment of the requirements
for the degree of Master of Marine Affairs.

University of Rhode Island

1992

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Preface

The writing of this paper has been handicapped by the fact that the material is new and the rules for the implementation of the Oil Pollution Act of 1990 are still being written.

I have enjoyed the investigation required to obtain much of the information contained in this report. My interest was piqued by the chronology of random events that led to the gradual awakening of how the United States legislative process works.

My first exposure to OPA-90 was from a presentation by a congressional aide at the University of Rhode Island. His talk was about the oil legislation enacted as a result of the Exxon Valdez oil tanker spill in Alaska and its environmental consequences.

This was followed by a copy of the act being given to me and a requirement to analyze its implications on the oil transportation industry.

I later had an opportunity to attend some Coast Guard rule making sessions in Washington, D.C. which brought the unaddressed areas of the act into focus. I found the process to be a fascinating example of negotiation, practical experience and a sense of purpose.

The overall conclusions I would make is that I now understand how the American system works. As the legislative process is completed and the rules finalized it appears evident that the intent of the act to protect the environment will be achieved.

Acknowledgements

This paper would not have been completed without the support, suggestions and hard work of Cynthia Erickson. Professor Dennis Nixon of the University of Rhode Island was instrumental in encouraging this work through his guidance and knowledge of Marine Affairs and environmental regulations, which have an important bearing on this subject.

Marine Spill Response Corporation (MSRC) - How it hopes to fill the requirements of the Oil Pollution Act of 1990.

THE OIL POLLUTION ACT OF 1990 - PUBLIC LAW 101-380

Exxon Valdez Grounding

On March 24, 1989 the 214,000 dead weight ton tanker Exxon Valdez went aground in Prince William Sound Alaska and from that day on the petroleum industry in the world would never be the same. The resulting spill of 11 million gallons of oil into those pristine waters and the destruction to fish, wildlife and the environment was the cataclysmic event that made American citizens say to Congress, "we have had enough".

Within a few months of this tragedy three major spills occurred in a 24 hour period in the coastal waters of the United States. These accidents occurred in Rhode Island where the World Prodigy went aground spilling 900 tons of light fuel oil; the President Rivera grounded in the Delaware River spilling another 900 tons of fuel oil, followed by the Rachael B. involved in a collision and losing 800 tons of partially refined crude oil in the Houston Ship Channel.¹ This demonstrated that oil pollution from accidental spills was a real threat to public health and welfare and the environment. The congress responded to these events by passing OPA-90 in August of 1989.

The nation's largest oil spill (Exxon Valdez) was exacerbated by slow response, fractionated authority, overlapping

¹. National Research Council. Tanker Spills: Prevention by Design, National Academy Press, Washington, D.C. 1991, p. 20.

federal, state and environmental jurisdictions and indecision. The nation's lawmakers made aware of the mishandling of the Exxon Valdez through committee hearings wrote the new law mandating actions that required the critical initial response to future spills to be fast. A fast response to an oil spill is necessary to reduce the amount of damage to the environment and lessen recovery and liability costs.

The Exxon Valdez grounding is recognized as the cataclysmic event that made possible the passage of OPA-90. The ship, only two years old, with a length of 950 feet, a beam of 166 feet and a draft in cargo of more than 50 feet, carrying 53 million gallons of oil went aground on Blight Reef.

This ship was underway at an operational speed of 15 knots. The master, Captain Joseph Hazelwood, was in his cabin and his third mate, who did not have the required pilotage certification, was in control of the vessel. The ship was outside of the eight mile wide channel and in trying to avoid surface ice was driven onto the reef which is 36 feet below the water surface. The grounding damaged 11 of the 16 tanks in the vessel of which 8 contained cargo. See Exhibit 1. Within three to four hours after the accident an estimated 10 million gallons of oil was spilled.²

The chronology of events that then took place are shown in Appendix A. What is not shown in the comic opera performance is

2. Exxon Valdez Oil Spill Hearing on Merchant Marine and Fisheries. House of Representatives. April 6, 1989. U.S. Government Printing Office, Washington, D.C., p. 20.

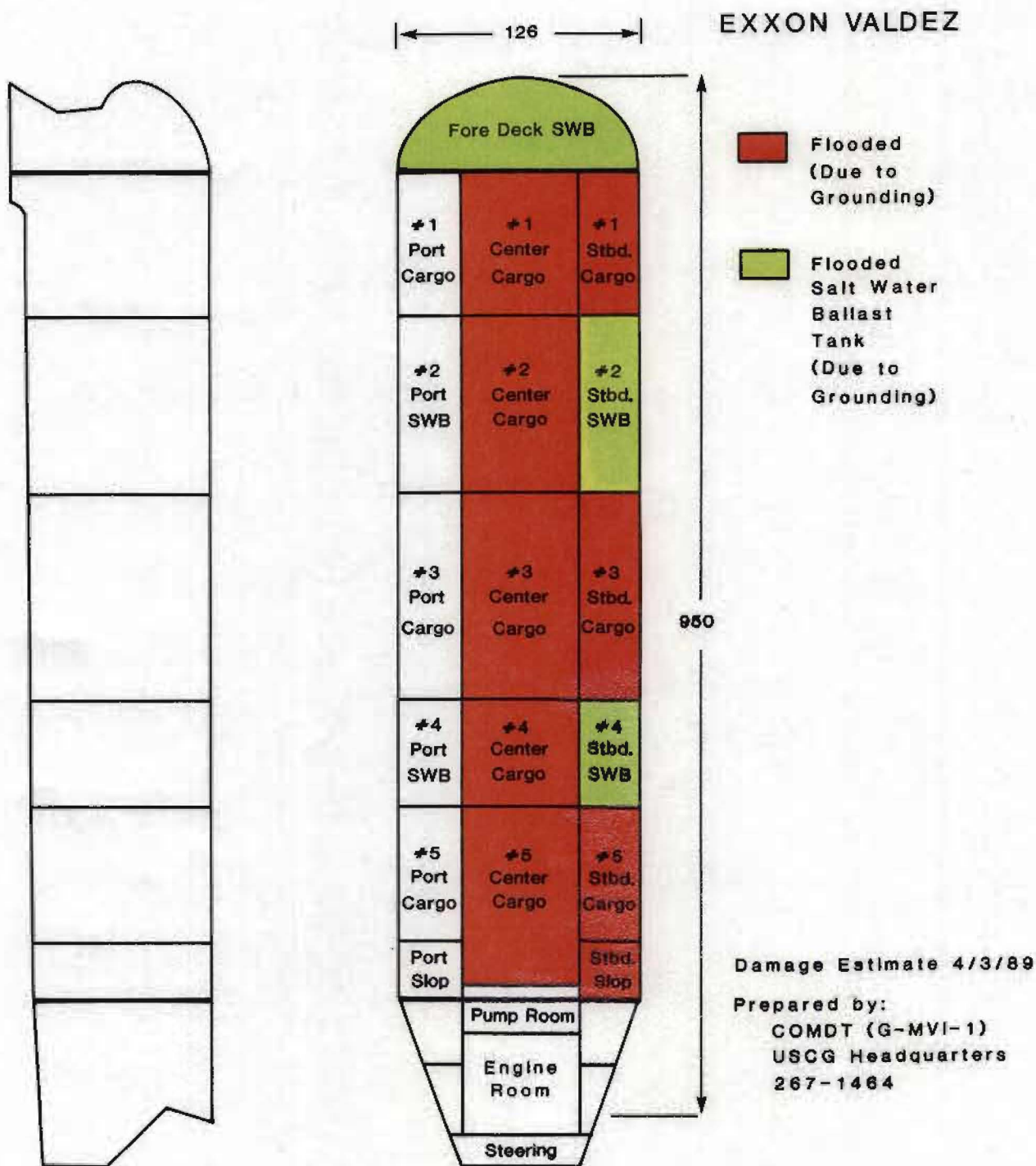


Exhibit 1

Exxon Valdez Oil Spill Hearing on Merchant Marine and Fisheries.
 House of Representatives. April 6, 1989. U.S. Government
 Printing Office. Washington, D.C., p. 137.

the disastrous consequences of a fractionated chain of command.

The three major command centers here were the United States Coast Guard, Exxon Corporation and the state of Alaska plus 13 other federal agencies.

The overall result was after the tanker was aground with 11 million gallons of oil spilled in Prince William Sound in calm seas it was three days before meaningful preventative action was taken. No oil dispersants were deployed in other than a test mode due to indecision. Because of inadequate contingency plans, politics, stupidity and lack of equipment, containment by booms was also delayed. When decisions were finally made it was too late as a gale with 70 MPH winds spread the oil throughout the region and exacerbated the damage that could have been localized. See Exhibit 2.

The role of Alyeska, (owned by Unocal, Exxon, Arco, BP-American, Mobil, Phillips and Amerada Hess) the organization responsible for the initial cleanup, was dreadful. Their contingency plan stated the companies resources "are organized in a preplanned manner to ensure rapid and effective response to any oil spill emergency."³

Not only was Alyeska's only containment barge stripped for repairs at this time but when it was loaded it was with the wrong equipment and it did not have barrier booms to fight the spill. It had to be reloaded taking additional crucial hours. On the day of the spill its replacement barge was 1200 miles away in

³. Ibid, p. 213.

**PROGRESSION OF SPILL LEADING EDGE
SAT. 3/25/89 - TUES. 3/28/89**

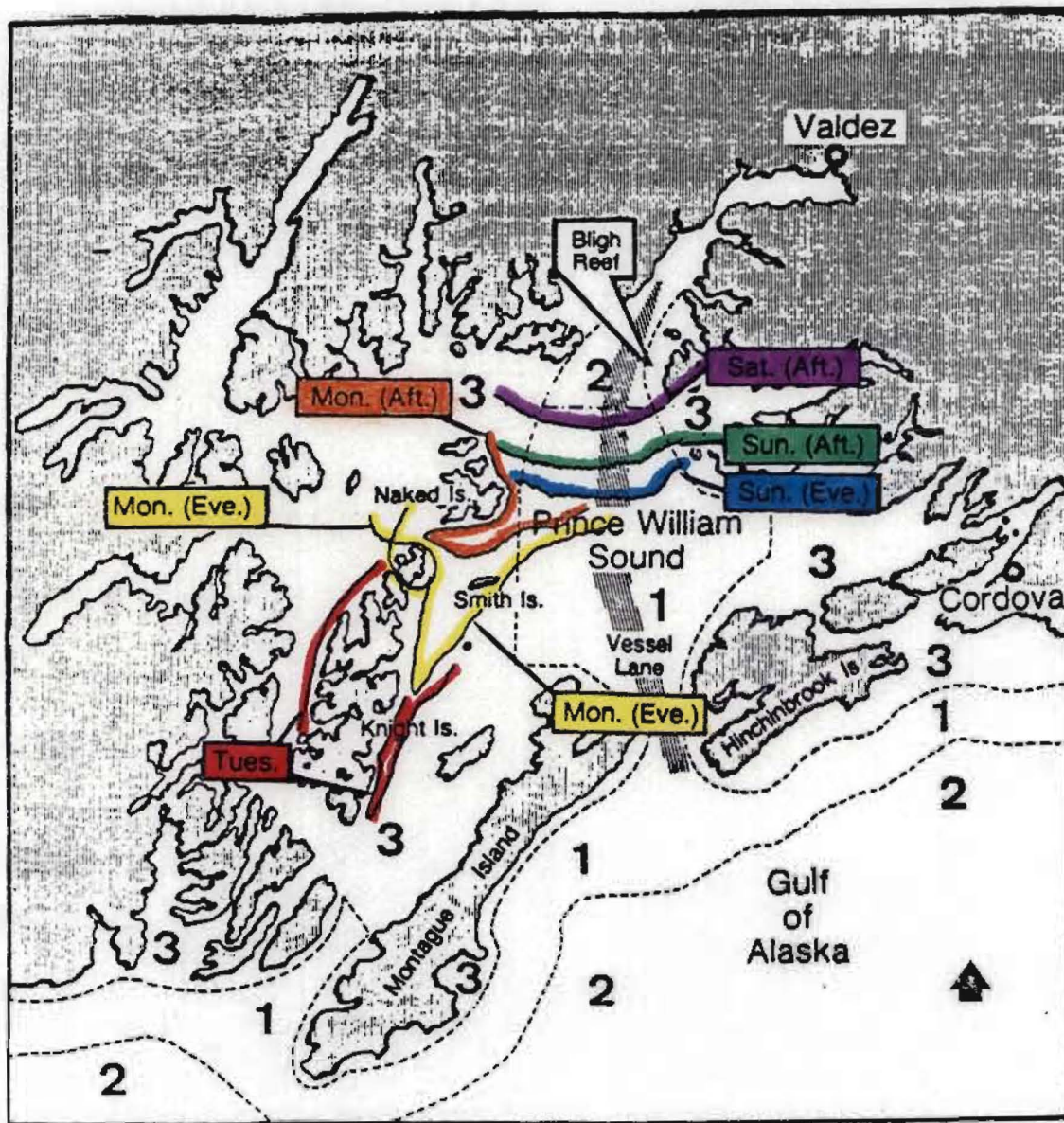


Exhibit 2

Oil Spill Progression - Exxon Valdez Oil Spill Hearing.
Committee on Merchant Marine and Fisheries. House of
Representatives. April 6, 1989. U.S. Government Printing
Office. Washington, D.C., p. 273.

Seattle.⁴

Betrayal - An Era of Distrust

In 1981 the full time oil spill task force maintained on location to respond instantly to a spill was disbanded for budgetary reasons. The state of Alaska approved this decision.

In a statement to the house subcommittee on Coast Guard and Navigation, Mr. Steve McAlpine, the Lt. Governor of Alaska, said:

The response was minimal. The response in every oil spill contingency plan requires that they first contain the oil. Even this scenario sets out sending booms and vessels to contain oil. For more than 35 hours after the oil hit the water there was no attempt to contain the oil.⁵

Distrust of Oil Companies

What is of interest in the Valdez oil spill hearings is the number of times the word betrayed is used to describe citizens feelings. The people of Alaska five years prior to the Valdez spill showed 92 percent favorable disposition to oil companies. After the spill the Lt. Governor of Alaska, Steve McAlpine, said:

The one word that I heard more than any other word when I was home was "betrayal". "We've been betrayed" . . . we are going to have to take away the trust that we have held heretofore and begin to undertake action ourselves.⁶

The mayor of Valdez said his community wanted regulations

4. Ibid, p. 203.

5. Ibid, p. 46.

6. Ibid, p. 47.

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The nation's largest oil spill (Exxon Valdez) was exacerbated by slow response, fractionated authority, overlapping

¹. National Research Council. Tanker Spills: Prevention by Design, National Academy Press, Washington, D.C. 1991, p. 20.

and restraints placed on the oil industry. "We want the oil industry to live up to their responsibility to us right now."⁷

A city councilman who is a fisherman from Cordova, Pete Isleib, gave the following testimony before the house subcommittee.

The grounding of the Exxon Valdez and the resulting spill . . . and lack of any meaningful action to control it is as much a betrayal to the people of Prince William Sound who were told to trust the design and preparation of the Marine leg of the TAPS Line, as it is an insult to the environment of Prince William Sound and the contiguous Pacific Ocean. I shouldn't limit my scope to my fishing grounds I guess, because the people of Alaska and the rest of America have been betrayed as well.⁸

These ill feelings by the citizens of Alaska must be turned around if the oil industry is to explore and obtain leases for oil exploration off the north slope of Alaska. The industry recognizes that Alaska is the most promising area for exploration in the United States.

PRESENT AND FUTURE STATUS OF OIL TRANSPORTATION

Around the world more than 3,000 tank vessels are in service each day. These tankers make voyages that vary from a few days to a month. These ships can be mammoth in size up to 400 meters long carrying hundreds of thousands of tons of product and are the largest moving objects made by man. Tank vessel traffic around the United States is increasing. This activity is

7. Ibid, p. 47.

8. Ibid, p. 147.

expected to intensify throughout the 1990's due to the nation's growing use of oil together with declining domestic production.

In 1992 because of low prices for oil and gas many energy companies plan to buy oil rather than drill for it.

Dozens of large companies including virtually all global giants like Exxon, Mobil, Texaco and Chevron . . . said they would spend more on projects outside North America. The survey showed that 80 companies collectively planned to increase their budgets for foreign exploration and production by 9.1 percent over a year ago. Also 157 companies plan to pare spending in the United States by a combined 10.7 percent from the level projected a year ago.⁹

Today more than one third of the world's crude oil and products (0.6 billion tons)¹⁰ pass through U.S. waters and the threat of pollution appears to be increasing.

The factors that made the accident so costly and the mishaps in its handling were addressed in the legislation that was passed in the Oil Pollution Act of 1990. The main points being provisions to insure that: 1) catastrophic contingency plans be in place; 2) a company decision maker be identified; 3) the Coast Guard is the designated on-scene coordinator; 4) vessels be built to new oil containment specifications; 5) onerous financial penalties be imposed for spills; 6) recovery contractors be identified to render assistance.

⁹. Hayes, Thomas C. Energy Companies Plan to Curtail Drilling in 1992. New York Times. January 7, 1992, p. C8.

¹⁰. National Research Council Tanker Spills: Prevention by Design, National Academy Press, Washington, D.C., 1991, p. 3.

OPA-90 Double Hull Requirements

OPA-90 requires that all ships trading in U.S. waters must meet or exceed standards that the International Maritime Organization (IMO) and its 1978 International Convention for Prevention of Pollution from Ships (MARPOL) in compliance with a phase in schedule. Specifically all new tank vessels (contracted after June 30, 1990 and delivered after January 1, 1994) operating in U.S. waters in the Exclusive Economic Zone must be fitted with double hulls. Existing single hull tank vessels can operate until the time limits specified in the act. The timetable ends January 1, 2010. See Appendix B. Existing tank vessels with double bottoms or double sides meet a separate schedule that ends in 2015.¹¹

The United States has unilaterally imposed several requirements that vary considerably from international standards. As a port state, the United States is requiring foreign flag vessels entering its territorial waters to meet its own set of regulations. Foreign flag ships have the option of either abiding by port state requirements or not traveling in those waters.

In the United States the inspection of vessels for compliance with both international and domestic requirements is carried out by the Coast Guard. The Coast Guard is also required to determine whether foreign-flag tank vessels can operate safely in United States waters.

¹¹. Ibid. p. 47.

Requirements for Contingency Plans

Another major requirement of OPA-90 is that vessels or facilities are not permitted to operate in United States waters without an approved contingency plan. Facility contingency plans are to include the following:

All (facility) plans will be required to follow a specific format which has not yet been established. The Coast Guard and EPA have been working together to develop a format that is appropriate for facilities regardless of the agency to which the plan is submitted. Each plan will be required to contain at least the following information:

- . Facility - specific information (description, location, owner or operator)
- . Emergency notification procedure (name/phone number of Federal, State, local officials to be notified)
- . Name of facility response coordinator (qualified individual who can implement the response plan)
- . List/location of spill response/fire extinguisher equipment
- . Training of facility response personnel and contractor response personnel
- . Cargo hazard identification including any hazardous chemicals stored in bulk at the oil facility
- . Emergency response procedures, i.e. containment, countermeasures and clean up activities to be undertaken by facility and/or spill contractors
- . Emergency response scenarios, i.e. worst case discharge, maximum most probable discharge, fire/explosions
- . Waste disposal
- . Workers health and safety

- . Potential threat to environment, public health and safety for each response scenario¹²

A vessel contingency plan may be required for each vessel entering a port. If we take a cursory look at some of the numbers of contingency plans that will have to be submitted we come up with some very large numbers. A vessel can make several port calls before its entire cargo is unloaded. For example a tank vessel out of Valdez, Alaska might discharge at Puget Sound or San Francisco. In this simplistic trip if it discharges at other ports it needs additional contingency plans.

In 1988 the estimated number of port calls by tankers was 14,000. The projected increase in tanker port calls in the U.S. is 21,000 by the year 2000 assuming no change in average tanker size (80,000 DWT).¹³

The Coast Guard has the responsibility to determine who will give approval to all these contingency plans. On the surface it appears to be a bureaucratic nightmare which may be either centralized at Elizabeth City, North Carolina or submitted locally to a U.S. Coast Guard Captain of the Port (COTP). He has to review and approve any contingency plan for a facility in his jurisdiction.

At present the Coast Guard is still making rules regarding contingency plans. At one location, the Coast Guard National

¹². Federal Register. Facility Response Plans; Proposed Rule: Department of Transportation. Coast Guard. 33CFR, Part 154. March 11, 1992.

¹³. Tanker Spills Previously Cited, p. 3.

Strike Force Coordination Center (NSFCC) in North Carolina, the unit will be centralized. It will be responsible for maintaining lists of spill removal resources, providing equipment requested by a Federal on-scene coordinator, cooperating in the use of public and private personnel and equipment to mitigate a spill, maintaining files of all area contingency plans and reviewing them.

A second alternative that appears likely to be used is to submit the contingency plan to be approved locally by the Coast Guard Captain of the Port (COTP) into which the vessel is scheduled to enter. The COTP knows the harbor, its currents, tides, environmentally sensitive areas and its response subcontractors. A COTP would know almost immediately if he had the ability to contain a spill depending on its size with either Coast Guard resources or a subcontracting response contractor whose resources, ships, personnel and equipment he would be familiar with.

Contingency Plan Filing - In order to comply with the new act, on shore oil installations will have to submit their contingency plans with the President by February 18, 1993 or be precluded from handling, storing or transporting oil products. Once the plan is submitted the owner or operator can continue to conduct business. After August 18, 1993 a facility may not perform any of these functions unless it is operating in compliance with that plan. The responsible agency may authorize a facility that has submitted a response plan to operate without

an approved response plan for two years after submission. The President, upon receipt of the response plan, must promptly review it, amend it if it does not meet the requirements of OPA-90, or approve the plan if it is correct. Thereafter he is required to review it periodically. Although the act requires the President to review the contingency plans, the responsibility for the approval of the plans has been given to the Coast Guard.

These requirements may overwhelm the Coast Guard because the actual number of plans to be submitted could be the total number of tank vessels or barges operating in United States waters times the total number of ports they enter carrying cargo times the number of different destinations given to a ship as the ownership of the oil is sold and traded while it is en route to the United States.

The paperwork explosion is exemplified by the Coast Guard's own contingency plan requirements in Providence which required 129 copies. These were sent to federal agencies, the state of Massachusetts, the state of Rhode Island and local agencies. See **Appendix C.** The Vice President and General Counsel for The Maritrans Corporation, Mr. John Newcomb, said, "We file more copies of our contingency plan than a person would if they had a personal death in the family."¹⁴

This will equate to tens of thousands of response plan copies of which must be kept by the government, the Coast Guard,

¹⁴. Personal Telephone Interview, John Newcomb. Telephone interview with Vice President and General Counsel of Maritrans Corporation on 2/21/92.

the facility or vessel and the response contractor.

A least cost strategy to an owner concerned about contingency plans would be to delay submitting the plan until the last day (February 18, 1993) realizing the volume of plans to be submitted for approval will delay action on that plan. By doing so, the owner is complying with the law for the next six months without paying for a recovery contractor until his plan has been approved. This delaying tactic could take until August 18, 1993 before a contractual commitment to a response contractor would have to be made.

EVOLUTION OF A NOT FOR PROFIT INDUSTRY COOPERATIVE

When it became evident that significant anti-oil pollution measures were to be enacted by congress, eight major oil companies set up a task force under the auspices of the American Petroleum Institute to react to the governments concern over environmental clean up. The task force concluded there was a need for greater spill prevention measures. In June of 1989 this group recommended that the industry set up a new program to expand its ability to contain, prevent and clean up oil spills. The group recommended a new independent organization called PIRO (Petroleum Industry Response Organization) which was funded by voluntary participating oil companies.

Establishment of Petroleum Industry Response Organization (PIRO)

This program must have been agreed to by the task force because at three separate committee hearings, one at the House Public Works and Transportation June 28, 1989, the second at the

Senate committee on Energy and Natural Resources, July 21, 1989 and finally at the House Merchant Marine and Fisheries Committee, July 26, 1989, the program was proposed. Presenting these proposals were high level officers from AMOCO, Chevron and Exxon. In a previous committee hearing on April 6, 1989 the chairman of Exxon, L.G. Raul, Admiral Paul A. Yost, Jr., Commandant U.S. Coast Guard and Quinn O'Connell, Counsel for TAPS (owned by Unocal, Exxon, Arco, B.P. American, Mobil, Philips and Amerada Hess) were all called upon to explain the Exxon Valdez spill.

The fact that the oil companies conceived of PIRO shows how well they are managed. PIRO was to respond on a best effort basis to a tanker in the 200 miles Exclusive Economic Zone including harbors and river mouths. Since defining a catastrophic spill depends on environmental risks, weather conditions and the amount of oil spilled, the definition evolved to a spill beyond the capability of local response resources as determined by the Coast Guard.

The task force estimated PIRO's five year operating capital and research and development costs as \$277 million. A month later the original eight companies increased to 20. Retired Vice Admiral John D. Costello, former commander of U.S. Coast Guard Pacific Area, was named to direct these efforts. The effort expanded and the original costs estimates were increased to 400 million and in September of 1990, to 800 million. The participating companies increased staff to 75 people to handle organizational problems.

As the structure grew other companies affiliated with oil, i.e. shippers and facilities that handle oil wanted to be included. This broader interest group of potential members led to the re-naming of the organization to the Marine Spill Response Corporation (MSRC). MSRC was chartered and incorporated July 30, 1989 in Tennessee.

The MSRC name was adopted because the organization's potential clientele goes beyond the oil industry. Independent tanker operations, some public utilities, in fact any company that handles petroleum products in quantity over coastal waters is now a prospective client . . .¹⁵

On August 18, 1990 the enactment of OPA-90 recognized oil spill response cooperatives under section 4205. This legislation provided critical provisions for responders such as limited immunity, the necessity of filing contingency plans, the need for training and drills, and the identification of a single decision maker.

The stated goal of MSRC was to create a new organization that would be fully operational within 30 months with state of the art equipment and personnel to mitigate catastrophic spills. It was also unique in that the petroleum industry created two companies, the Marine Preservation Association (MPA), a non-affiliated corporation that will be funding MSRC and, MSRC, the operational corporation that will handle oil spills. If we take OPA-90 as a giant catalyst to bring the oil companies to clean up

¹⁵. U.S. Petroleum Industry forms Oil Spill Response Organization. Oil and Gas Journal. September 10, 1990, p. 40.

their act we should credit them with putting a workable organization in place and funding it in a generous manner to help meet an urgent environmental need.

Trend to Smaller Ship Owners

The keystone of why the oil industry would support a cooperative oil recovery response organization is obvious when the tally of the costs to Exxon for this spill is finalized. It will be years before the final costs are all paid but at present it is apparent that the spill will have cost in excess of three billion dollars. A loss of such proportions could only be survived by a few corporations, Exxon being one of them.

As a result of this penalty and the unlimited liabilities under OPA, several companies have announced they will no longer transport crude oil to the United States because the risk is too great.

These companies include Royal Dutch Shell and Society National Elf Aquitaine, the French State owned oil company, as well as AP Moeller, the Danish shipping company. More will undoubtedly follow.¹⁶

Approximately 80 percent of the world's tanker fleet is controlled by the oil industry which either owns or charters for long term contracts (about 35 percent of the fleet is owned by oil companies and another 45 percent is normally on long term charter). The remainder of the tonnage is available for spot

¹⁶. Gibson, Andrew E. Annus Finis Inevitabilis. Private Paper. Chairman of Maritime Affairs. U.S. Naval War College. Newport, Rhode Island. p. 12.

chartering and can be considered tramp service.¹⁷ With the threat of unlimited liabilities it must be realized that ship owners with deep pockets may elect to sell off their marine operations to independent ship owners with less assets who conduct operations with fewer safeguards which make ship operations and manning less safe.

Financing and insuring these vessels is disappearing because the Protection and Indemnification (P & I) clubs that insure these vessels or provide financial guarantees are faced with direct action lawsuits which would expose them to unlimited liability for incidents caused by vessel owners.¹⁸ If the insured walks away from the situation the insurer (P & I Club) is faced with a legal defense and payment for the spill. Also the clubs are having difficulties grasping what they are covering because they can be sued in so many jurisdictions. See Exhibit 3.

In the meantime, many insurers already have begun adding voyage surcharges often as high as the annual premium to vessels carrying petroleum products in U.S. waters.¹⁹

Bankers are also at risk. Under the new law these institutions become liable for oil spills when their loans name

17. Abramson, B.S. Marine Shipping in Transition: An Overview. International Ocean Shipping. p. 12

18. Sansbury, Tim. Coal, Grain Shippers Fear Backlash of Spill Law. Journal of Commerce. January 28, 1992, p.10.

19. Plume, Janet. Insurance Financing Begins to Dry Up for U.S. Oil Carriers. Journal of Commerce. August 20, 1991, p. 1.

Insurance, Financing Dry Up for US Oil Carriers

STATE OIL SPILL LIABILITY LAWS¹

For Transporters

State	Cleanup Costs		3rd Party Damages ²		Damages to Natural Resources ³	
	Standards ⁴	Limit	Standard	Limit	Standard	Limit
Alabama.....	Negligence	No	—	—	Negligence	No
Alaska.....	Strict	No	Strict	No	Strict	No
Arizona.....	Strict	No	—	—	—	—
Arkansas.....	Strict	No	—	—	Strict	No
California.....	Strict	No	Strict	No	Strict	No
Colorado.....	Strict	No	—	—	—	—
Connecticut.....	Strict	No	—	—	—	—
Delaware.....	Strict	\$300/gt up to \$30M	Strict	\$300/gt up to \$30M	Strict	\$300/gt up to \$30M
Florida.....	Strict	Greater of \$10M or \$1,200/gt	Strict	No	Strict	No
Georgia.....	Strict	No	—	—	Strict	No
Hawaii.....	Strict	No	—	—	Strict	—
Idaho.....	—	—	—	—	—	—
Illinois.....	Strict	No	—	—	Strict	No
Indiana.....	Tort	No	—	—	Strict	No
Iowa.....	Strict	\$5M	—	—	Strict	\$5M
Kansas.....	Strict	No	—	—	Strict	No
Kentucky.....	—	—	—	—	Strict	No
Louisiana.....	Strict	Greater of \$1,200/gt or \$10M	Strict	Greater of \$1,200/gt or \$10M	Strict	Greater of \$1,200/gt or \$10M
Maine.....	Strict	No	Strict	No	Strict	No
Maryland.....	Strict	No	Strict	No	Strict	No
Massachusetts.....	Strict	No	Strict	No	Strict	No
Michigan.....	Tort	No	—	—	—	—
Minnesota.....	Strict	No	—	—	Strict	No
Mississippi.....	Strict	No	—	—	Strict	No
Missouri.....	Strict	No	—	—	—	—
Montana.....	Strict	No	—	—	—	—
Nebraska.....	—	—	—	—	—	—
Nevada.....	Strict	No	—	—	Strict	No
New Hampshire.....	Strict	No	Negligent	No	Strict	No
New Jersey.....	Strict	\$150/gt	Strict	\$150/gt	Strict	No
New Mexico.....	Strict	No	Nuisance	No	—	—
New York.....	Strict	\$50M	Strict	\$50M	Strict	\$50M
North Carolina.....	Strict	No	Strict	No	Strict	No
North Dakota.....	—	—	—	—	—	—
Ohio.....	—	—	—	—	—	—
Oklahoma.....	—	—	—	—	—	—
Oregon.....	Strict	No	Strict	No	Strict	No
Pennsylvania.....	—	—	—	—	—	—
Rhode Island.....	Strict	No	Strict	No	Strict	No
South Carolina.....	Strict	No	Arb ⁵	No	Strict	No
South Dakota.....	Strict	No	—	—	Strict	No
Tennessee.....	—	—	—	—	—	—
Texas.....	Strict	No	—	—	Strict	No
Utah.....	—	—	—	—	—	—
Vermont.....	Strict	No	Strict	No	Strict	No
Virginia.....	Strict	No	Strict	Greater of \$500/gt or \$10M	Strict	Greater of \$500/gt or \$10M
Washington.....	Strict	No	Strict	No	Strict	No
West Virginia.....	—	—	—	—	Strict	No
Wisconsin.....	Strict	No	—	—	Strict	No
Wyoming.....	—	—	—	—	Strict	No

1-Data are current as of May 10, 1991, except for Florida, which amended its statute May 28. This chart does not include punitive damages or civil or criminal penalties.

2-Third-party claims include property owners and state governments that might lose revenues from an oil lease due to a spill.

3-Natural resources include wildlife and its habitats, among others.

4-Standards are the guidelines each state uses to measure the spill. Strict standards are the heaviest, in which the conduct of the spiller is irrelevant, and it does not matter whether negligence was present. Negligent standards mean the state must show care was not exercised, in order for the liability to apply. Tort means no specific state statute addresses oil spills, but liability exists under the state's common laws such as trespass and nuisance. No limit means unlimited liability.

5-Liability standard determined by a board of arbitrators.

gt-gross tons of ship capacity.

Source: American Petroleum Institute

Exhibit 3

Journal of Commerce. August 20, 1991, p. B5.

the mortgage holder as the owner. The banks appear to have three options open to them. One is not make loans to ship owners, another is to require shipowners buy much higher pollution insurance or finally to cover the amount of the outstanding loan by insuring it. In all cases this amounts to significantly higher costs.

A shortcoming of the law is that it does not pre-empt state laws which do effect responders and may keep them in port.

The Role of Marine Preservation Association (MPA)

To promote independence of MSRC from the oil companies a second non-profit corporation was formed, Marine Preservation Association (MPA). Most of the companies that were on the original task force are members of MPA. MPA has used initial contributions and dues paid to it to finance the creation of MSRC and to fund its ongoing operations. The funds provided by MPA will not be used to cover costs incurred by MSRC to respond to spills. All MPA members must meet the certification requirements under OPA-90. MSRC will be able to help these MPA members obtain certification by being named contractually as the responder to the member in the event of a major spill.

Currently there are 37 members of MPA, mostly major oil companies. MPA advertising in the Oil & Gas Journal state,

If you are an owner, shipper, receiver of oil or terminal operator; own or operate vessels, coastal or upstream facilities or own oil cargo, you are eligible to join . . . MPA using its members dues, is funding the Marine Spill Response Corporation (MSRC) the only known private

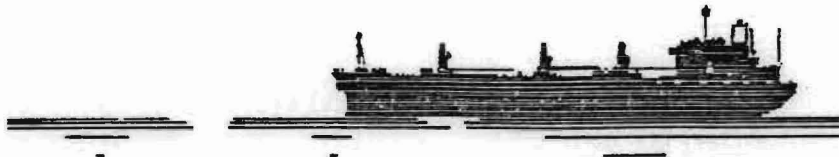
resource that will be capable of responding to catastrophic oil spills in U.S. coastal waters and certain rivers and harbors. See Exhibit 4.

Apparently there is more than one type of membership category. A new member pays retroactively its pro rata share of dues. The lowest category of membership is \$71,000. plus quarterly payments on a per barrel amount (PBA). A dues paying member will pay the greater amount of the minimum dues or a per barrel amount. It is estimated the PBA for 1992 will be four cents. Based on a 1988 figure of seven million barrels a day brought into the U.S. with projections increasing to 10 million barrels per day in the year 2,000. As Senator Everett Dirksen is alleged to have once said in a budget meeting, "a billion here and a billion there and pretty soon you are talking about real money". According to the projections given, if rates were to remain constant and all revenues were to go to MPA for oil products shipped into the U.S., the PBA amount would be in the range of \$400,000. per day in the year 2000. This would be the price for recovery backup or 144 million a year.

Membership in MPA can not be obtained on a per voyage basis. However members who have contracted for long term charters and "deem" response coverage by MSRC to a vessel for which a charter contract exists. The financial obligation of the vessel, its Certificate of Financial Responsibility (COFR), is assumed to be provided by the chartering member.

There appears to be no restriction by MPA or MSRC on the seaworthiness of the vessel to be covered. This responsibility

**You have just 16 months
to equip and train your
own catastrophic oil spill
response teams.**



Or you can join MPA.

If your worst-case discharge will exceed local response capabilities, there are no other options. The Oil Pollution Act of 1990 mandates that companies shipping, storing and receiving oil in U.S. waters must submit a satisfactory response plan to the U.S. Coast Guard by February 18, 1993.

You must submit a catastrophic response plan using private resources. Which means contracting for booms, ships, skimmers and dispersants, and experienced crews.

Or joining the Marine Preservation Association.

Meet OPA 90 Spill Response Plan Requirements

The Marine Preservation Association (MPA) is the answer. MPA, using its members' dues, is funding the Marine Spill Response Corporation (MSRC), *the only known private resource that will be capable of responding to catastrophic oil spills in U.S. coastal waters and certain rivers and harbors.*

As an MPA member, you are eligible to sign an MSRC service contract and use this valuable resource should you ever need it. You can cite MSRC in your response plans submitted to the Coast Guard.

**Save 20% by
joining before
December 31, 1991.**

If you are an owner, shipper receiver of oil or terminal operator; own or operate vessels, coastal or upstream facilities or own oil cargo, you

are eligible to join MPA.

If you wait, your membership will cost an additional 20 per cent.

Join now.

Now is the time to plan your compliance with OPA '90 by becoming an MPA Charter Member.

Charter Members (September 19, 1991):

Amerada Hess Corporation
Amoco Corporation
ARAMCO Services Company
Ashland Oil, Inc.
ARCO
BP America, Inc.
Chevron, USA Inc.
Conoco, Incorporated
Exxon Company, USA
FINA Inc.
Marathon Oil Company
Mobil Oil Corporation
Murphy Oil USA, Inc.
Pacific Resources, Inc.
Portland Pipe Line Corp.
Phillips Petroleum Company
Shell Oil Company
Star Enterprise
Sun Refining & Marketing Company
Texaco Inc.
Union Oil Company of California

Beat the December 31 deadline by becoming an MPA Charter Member now. Write or call for membership information.



Marine Preservation Association

8777 N. Gainey Center Drive
Suite 165
Scottsdale, Arizona 85258
Telephone: (602) 991-5500
Facsimile: (602) 991-6085

is supposed to rest with the oil company chartering the tanker to see that it contracts for excellent vessels.

Another unusual approach is that MSRC is to train subcontractors rather than members. The subcontractor would be hired and used by MSRC to clean up the spill. There seems to be no plans to train the crews or officers of tank vessels. The training of crews covered by MSRC is to be left to the oil companies chartering the vessels. This may be a significant shortcoming because a vessel involved in a collision or grounding may capsize or breakup unless the vessel's tanks are trimmed properly prior to a response contractor arriving on the scene.

If it turns out that MSRC, as MPA's ad states, is "the only known private resource that will be capable of responding to catastrophic oil spills in U.S. waters", then we will see the end of a single vessel charter by an independent who is not a member of MPA.

Further it could be concluded that the oligopolistic oil industry, through a not for profit industry cooperative has created another barrier for competition. Unless an independent owner goes to a lot of trouble finding an acceptable catastrophic recovery contractor qualified to cover his vessel or charter he will be excluded from the U.S. market.

MARINE SPILL RESPONSE CORPORATION (MSRC)

The Charter of MSRC (see Appendix D) is straight forward with one glaring exception. The Charter calls for MSRC to mitigate environmental damage to coastal and upstream waters of

the continental United States, Hawaii, Alaska, Puerto Rico and the Virgin Islands. It will render best efforts to clean up and contain oil spills in a number of ways. It will also respond to "any other spill where the corporation is retained by the Coast Guard and directed to respond;". This is the part of the charter which is flawed.

The shortcoming of this provision gives oil shippers an out for not making a financial commitment to a catastrophic oil spill. By not becoming a member of MPA, and entering a contractual arrangement with a competitive response organization with minimal capabilities a shipper has a least cost solution. If a shipper with a minimal capability has a major spill and the Coast Guard directs MSRC to respond the firm has effectively made use of MSRC's capabilities without paying for membership. This type of scenario will definitely impede the process of enrolling members.

What happens in situations of this type is that when a shipper has a major spill with severe financial penalties the number of membership contracts signed and delivered increase dramatically. If a governmental agency, in this case the Coast Guard, provides the recovery capability (possibly using MSRC resources) to a spill they then have shot MSRC in the foot. The potential spiller will take the risk that a spill will not occur and go with a minimal backup organization always knowing if it gets out of hand the Coast Guard will make the recovery.

MSRC can remedy this flaw by reaching an accommodation with

the Coast Guard that it will never respond unless the spiller is an association member. If MSRC is forced to respond by the Coast Guard, it should be understood that in responding to a catastrophic spill, MSRC will render a bill to the Coast Guard not only for the cost of clean up and recovery, but also triple the equivalent membership dues the offender would have paid to MPA from the time of implementation of OPA-90.

It should be written in stone that unless a firm is a member MSRC will not respond. Also that membership can not be initiated in less than 30 to 60 days to prevent opportunistic coverage for vessels in jeopardy, for example vessels caught in the path of a hurricane.

Regional Centers

The duties of MSRC are to render best effort to contain and clean up spills and be operational by February 1993. They have set up five regional centers. Each regional center will have three to six prestaging areas for a total of 23 locations where equipment, vessels and personnel will be located (see Exhibit 5).

The headquarters is located in Washington, D.C. and has an organization in place. MSRC has placed orders for 16 offshore vessels (see Exhibit 6) amounting to \$185 million dollars. They also have awarded \$31 million in contracts which eventually will total \$200 million for transfer pumps, fence and intertidal booms, skimmers, containment and clean-up equipment.²⁰

²⁰. Benedetto, Dr. William. Two Yards Chosen to Build Spill Ships. Journal of Commerce: September 5, 1991, p. 1.

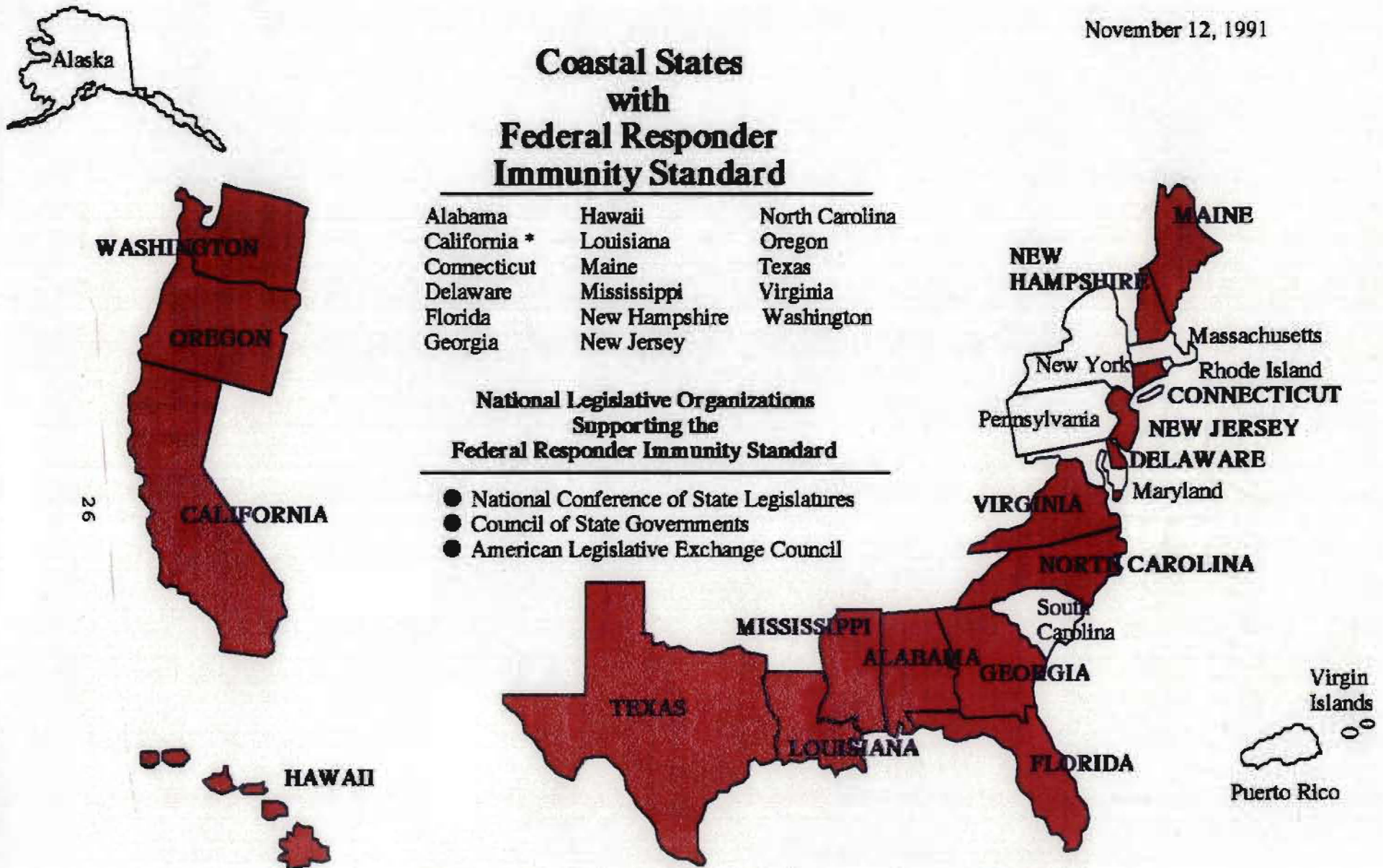
November 12, 1991

Coastal States with Federal Responder Immunity Standard

Alabama	Hawaii	North Carolina
California *	Louisiana	Oregon
Connecticut	Maine	Texas
Delaware	Mississippi	Virginia
Florida	New Hampshire	Washington
Georgia	New Jersey	

National Legislative Organizations Supporting the Federal Responder Immunity Standard

- National Conference of State Legislatures
- Council of State Governments
- American Legislative Exchange Council



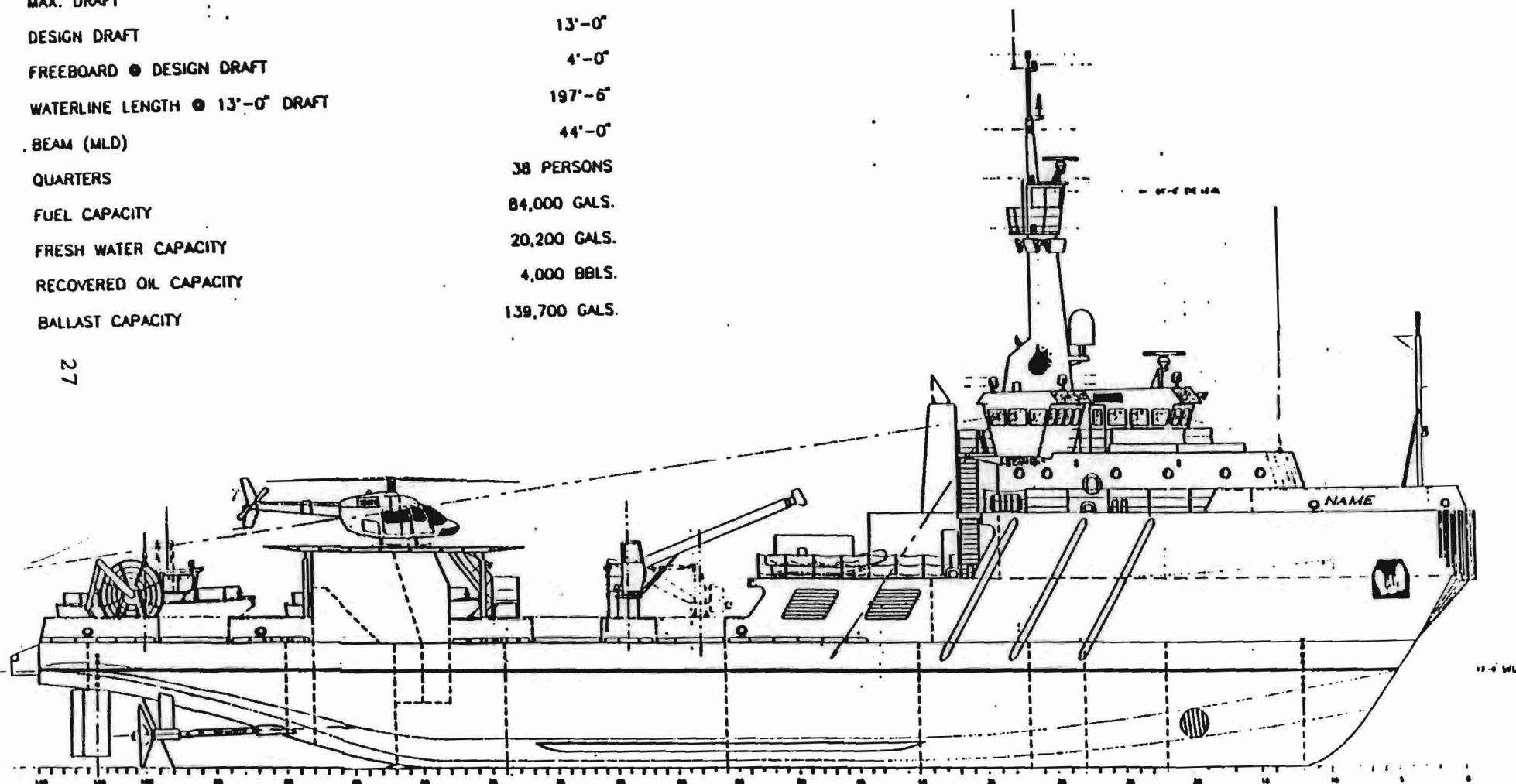
- * Federal standard was adopted but only for a maximum of 90 days.
- Indicates states which have passed responder immunity legislation.

RESPONSE VESSEL

CHARACTERISTICS

LENGTH O.A. (MLD)	208'-6"
LENGTH ON MAIN DECK (MLD)	200'-6"
DEPTH (X) (MLD)	17'-0"
MAX. DRAFT	14'-4"
DESIGN DRAFT	13'-0"
FREEBOARD @ DESIGN DRAFT	4'-0"
WATERLINE LENGTH @ 13'-0" DRAFT	197'-6"
BEAM (MLD)	44'-0"
QUARTERS	38 PERSONS
FUEL CAPACITY	84,000 GALS.
FRESH WATER CAPACITY	20,200 GALS.
RECOVERED OIL CAPACITY	4,000 BBLs.
BALLAST CAPACITY	139,700 GALS.

27



OUTBOARD PROFILE

Exhibit 6

Its other duties are to develop and maintain a comprehensive data bank of: tides and current data, weather and sea conditions data, environmental sensitivity data, oil characteristic data, disposal refining and treatment sites, notification database and route information. Mobile communication suites have been set up for this to travel by sea or air (see Appendix E).

The corporation will carry out training exercises and review the contingency plans developed and submitted by the members of the association only with regard to its own response capabilities.

The corporation with respect to removal of waste oils and other regulated materials shall delegate these removal obligations to subcontractors to the maximum extent practicable.²¹ See Appendix F.

Management

Presently the corporation is authorized to staff approximately 400 people. The headquarters group in Washington with authorizations for approximately 50 people and the five regions range from 64 to 74 people per region. The top line management of MSRC is predominately former Coast Guard officers. From the President to General Manager and Regional Managers, their ranks include three former Admirals, one Captain and two Commanders. The board of directors includes a former Admiral who was commandant of the Coast Guard.

²¹. Marine Spill Response Corporation. By Laws. Article 1, 1.5. Disposal of Waste and Hazardous Material.

They obviously know how the Coast Guard operates and since it is the regulating agency for OPA-90 they appear to have an obvious advantage over other response contractors.

A typical region would have a general manager reporting to the Vice President of Operations and General Manager in Washington. The Regional Managers staff would include: Managers of Operations, Finance and Administration, Training and Safety, Communications and External Affairs. These people are then supported by additional staff.

THE ROLE OF THE COAST GUARD

Rear Admiral Arthur E. Henn of the U.S. Coast Guard recently wrote that:

Its primary tasks fall to the Coast Guard. The acts impact . . . on the regulating agency is going to be substantial. The act has numerous provisions which will profoundly change the way oil is transported in the U.S. trade. The most notable is increased liability for companies that handle, store and transport oil.²²

The U.S. Coast Guard has primary responsibility for federal oil spill response in the coastal zone. It provides on scene commanders and manned facilities which can be used for control and surveillance of oil spills. It has two national strike teams in place in San Francisco, California and Mobile, Alabama with a third being established in Fort Dix, New Jersey. To coordinate

22. Henn, Arthur E., Rear Admiral U.S. Coast Guard. The Oil Pollution Act of 1990. Primary Task of Regulating Actions Falls to the Coast Guard. Maritime Reporter & Engineering News, September 1991, p. 16.

these activities a National Strike Force Coordination Center (NSFCC) is being established in Elizabeth City, North Carolina. In addition, each of the 10 Coast Guard districts will have a district response group. These will be the quick response teams to provide the first line of defense against spills until a major contractor can arrive on the scene.²³

Rules Development

One of the major jobs facing the Coast Guard is to develop the rules necessary to implement all of the provisions of OPA-90. Some of these provisions are: establish a design criteria that will be acceptable to the double hull provisions of the law, and finalize rules covering contingency plans for both vessels and facilities. These rules should be published in August 1992. If an operator has not submitted a contingency plan within six months after they are published (estimated February 1993) they may not continue in business.

There will be approximately 40 other rules established covering manning, training, navigational controls, vessel traffic service, spill containment and mandatory equipment specifications on board. It will also require that owners identify a decision maker for on site clean up. The Coast Guard will be responsible for chairing the Research and Development of 13 other federal agencies involved in these activities.

Public Workshops on Proposed Rulemaking

On November 14, 1991 the Coast Guard held a public workshop

²³. Ibid.

for proposed rule making and solicited comments regarding response plans and coverage of oil spill removal equipment. OPA-90 requires the Coast Guard to review and approve response plans. These plans must address a vessel's response to a "worst case discharge" to the "maximum extent practicable". A "worst case discharge" is defined in the law as the loss of the vessels entire cargo in "adverse weather". "Maximum extent practicable" and "adverse weather" are not defined in the statement.

The Coast Guard's definition of "maximum extent practicable" must include specific response time for planning and evaluation. "Adverse weather" must include environmental conditions of wind, seas, current, temperature, ice, visibility, fog, etc. Offshore conditions are different from the conditions which exist in harbors or inland rivers. Conditions are different in Alaska and Florida mainly due to temperature. Some of the approaches for planning standards are shown below.

<u>Location</u>	<u>Wind</u>	<u>Waves*</u>	<u>Swell</u>	<u>Current</u>
Offshore	25 KTS	6 feet	4 feet	1 knot
Harbor	20 KTS	3 feet	N/A	2 knots
River	20 KTS	1 foot	N/A	4 knots

Temperature - Able to operate within normal temperature ranges expected in the geographic area of vessel operation (as identified in applicable area contingency plans).

Ice Conditions - If applicable, ability to operate in normal ice conditions expected in a specified geographic area (as identified in applicable area contingency plan).

Visibility - Limited to one mile.

*Period of wave will need to be specified (to be determined).

Some approaches to response times are shown and are based on the vessels location. These standards are used for planned resource identification and availability.

Response Resource Mobilization and Assumptions

Notification of Contractor - Within 30 minutes of incident

Mobilization - Initial personnel and equipment enroute within 1.5 hours of notification

Travel Time - One hour per 40 miles over land
One hour per 10 miles of water transit

On-Scene Preparation - One Hour

Once the notification and mobilization takes place, the Coast Guard Rulemaking stipulated the following performance requirements would exist:

*Notification of Response Resource - within 30 minutes of incident

*Initial Personnel & Equipment on Scene (from mobilization)

- Two hours or less in port area or environmentally sensitive area identified in contingency plan
- Four hours for any other shoreline area accessible by roadway
- Offshore spill response time, two hours plus one additional hour per 10 miles of water transit

*Effective Recovery - (skimming) capacity on scene and operating from arrival of initial resources on scene

1,000 barrels/day on scene within 6 hours
2,500 barrels/day on scene within 12 hours
10,000 barrels/day on scene within 24 hours
25,000 barrels/day on scene within 48 hours
50,000 barrels/day on scene within 72 hours

Maximum industry capability practicable on scene
within five days

*Lightering equipment on scene within 12 hours

*Firefighting equipment on scene within 24 hours

Recovery Based on Oil Characteristics

In general terms oil is characterized as persistent or non-persistent. Persistent oils are heavy crudes #4 or #6 fuel oil or Bunker C, or heavy marine diesel, none of which will weather rapidly and will remain in the environment much longer. Many of these oils tend to emulsify in water increasing the volume required for removal. Non-persistent oils such as gasoline, naphtha, light diesel and jet fuel will weather rapidly and "naturally" be removed from the environment. The Coast Guard rules must allow this weathering process to be taken into account when examining response capability requirements.²⁴

Some questions arose whether non-petroleum oils are included. The Coast Guard interpreted the statute such that Federal Water Pollution Control Act (FWPCA) should be used.

When the results of this tank vessel response plan were published the major points of the meeting were in many cases divergent. The following list of topics and response summaries give an indication of the problems to be considered in developing rules.

Contracts - Most people felt that the statute requires a

²⁴. U.S. Coast Guard. Proposed Rulemaking Meeting, November 14, 1991. Coast Guard Headquarters, Washington, D.C.

contract with a response organization.

Review of Response Plans - There were a variety of views. One suggestion was each review should be port specific, another suggested a panel of different interests in the community (government, industry, citizens) perform the review.

Response Plans - The rule makers were equally divided between standardized format and a flexible format. The standards for update formats ranged from continuously to every five years. The majority felt there should be an annual review.

Vessel Damage Stability - Plans should be maintained on and off the vessel for salvage, and firefighting purposes as well as prevention from breakup or capsizing.

Response plans on unmanned barges - The respondents were split between keeping plans on the barge or putting them on the towboat. However, many towboats move a single barge.

Qualified Individual - This individual is to work with the on scene coordinator and be responsible for financing the clean up. For fleet barges when a company individual is not on board, some thought the towboat operator could be the qualified individual. Others saw the operator as the initiator of response and notifier of the shore based qualified individual. For tankers and barges, some indicated a shore-based representative chosen by the owners. Whoever is designated the individual should be decisive, skilled in the problems and not crack in hazardous and trying conditions.

Response Time - Most commentators agreed response time

should be planning standard not performance standards. Recommended time ranged from immediate to 12 hours.

Vessels Covered - It was suggested that "non-tank" vessels should be exempt from the regulations. Foreign vessels in innocent passage should be exempt. It was suggested vessels carrying a small volume of oil (500 gallons to 500 barrels) as cargo be exempt.

Response Plan for Contractors - Comments were split over whether the contractor should have response plans. Some suggested licensing by the Coast Guard while others wanted the contractors subject to audits by the Coast Guard and state agencies.

State Role in Plan Review - The majority believed the Coast Guard should have sole authority over response plans. Others felt that states should have a role of review but that the Coast Guard would have final authority. Someone noted the states role in review is to participate in the planning process.

Drills - The consensus was drills were necessary although comments were mixed on whether they should be announced or not. Recommended drills ranged from weekly to yearly. Two approaches to drills were advanced. One was vessel specific drills, the other was table top or full scale field exercises. It was noted that drills should not interfere with vessel cargo operations. All commentators agreed any exercises should be logged and credit given for all regulations to which the exercise is applicable.

Economic Issues - Many commented they could not evaluate the

economic impact until the proposed rule is issued. Others wanted the Coast Guard to include the cost of no action in their evaluation.

Commentors suggested the cost of creating oil spill response plans from negligible to \$200,000. per vessel. Others estimated corporate wide costs from \$550,000. to \$2,000,000. It was noted small ships have a higher cost per barrel. See Exhibit 7.

There were a range of opinions on estimated impact (for owners and operators of tank vessels) of maintaining contracts with spill response companies in each port they utilize. One commentator suggested that to retain a contractor for each port would cost \$20,000. per port. Other estimates range from \$25,000. to \$150,000. corporate-wide. One large company indicated a current corporate cost of \$30 million that could increase 50%.

Comments on drill cost for tank vessel owners based on varied assumptions range from \$4,000. to \$500,000.

Impact on Small Business - The commenters agreed that there was a significant impact on small businesses. Many vessel owners are independent operators and the economies of scale that large companies have would not work for them. This exacerbation of economics of scale would have anticompetitive effects.

Federalism - Most comments received on federalism were concerned with the inconsistency of state requirements that go beyond federal requirements. The suggestion of the commenters was that there should be uniformity between state and federal

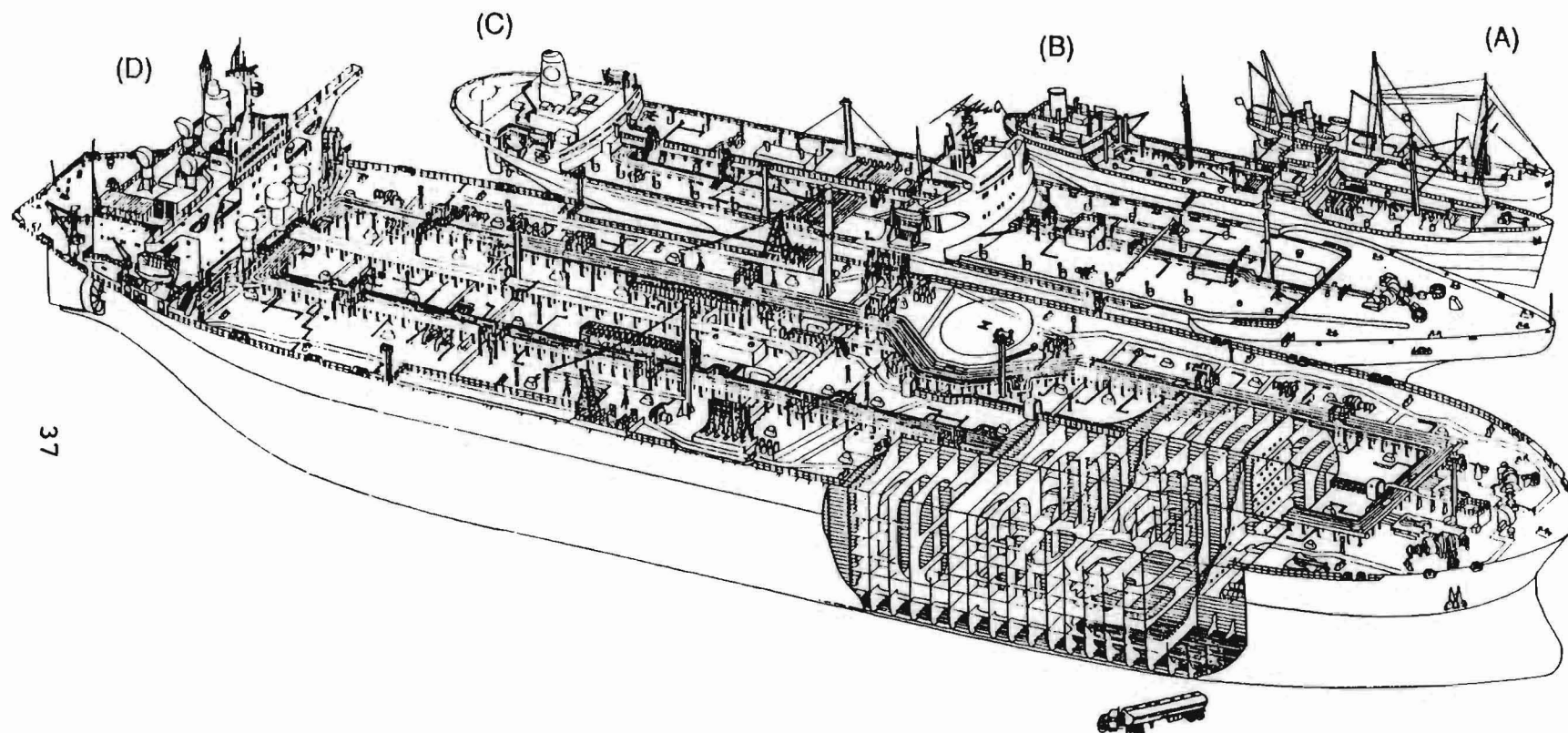


FIGURE 2-1 Evolution of the tanker. Sources: National Geographic Magazine, July 1978, and Tanker Advisory Center. (A) 1886, GLUCKAUF—First prototype tanker, 3,000 DWT. (B) 1945, T-2, World War II workhorse, 16,500 DWT, 525 built. (C) 1962, MANHATTAN—115,000 DWT (after conversion to an ice-breaker in 1969), the largest U.S.-flag ship at time of building. (D) 1977, KAPETAN GIANNIS—(formerly ESSO ATLANTIC) 517,000 DWT, length: 1,334 ft., third largest tanker in the world.

government. Few commentators said that federal regulations should not pre-empt state regulations. These respondents were probably representative of states attending the rule making meeting.

Coverage and Inspection of Removal Equipment - Most respondents believe some removal equipment should be required on board tank vessels. There was a clear consensus that the primary concern should be for the safe operation of the vessel and the safety of the crew.

There was no agreement on how large a discharge the removal equipment should be able to handle.

There was general agreement that multiple barges in the same tow should share response equipment.

There was unanimous agreement that lifeboats should not be used in deploying containment booms and should be used only to save lives. A number of commenters noted new SOLAS rules require covered life boats and therefore would not perform over the side work.

Training - Comments ranged from requiring all members of the crew to have 40 hours of training, to just requiring the training of officers and senior licensed personnel. Many suggested that officers be trained in the implementation of the vessels response plan. A few responders said that the Coast Guard should certify providers of response training and that the training be a prerequisite for licensing.

The range of cost for new training programs ran from minimal to prohibitive \$250,000.

The count of the attendees to the Response Plan Workshop by affiliation is as follows:

Tankship Owner/Operator/Agent	58
Tankbarge Owner/Operator/Agent	17
Other Vessel Owner/Operator/Agent	2
Trade Association	10
Facility Owner/Operator	8
Environmental Organization	4
Federal State & Local Government	39
Clean Up Contractor/Cooperative	11
Insurance Industry	4
Equipment Supplies	9
Private Citizen	2
Other	34 25

National Pollution Funds Center

The guardian of the pollution threat is the Coast Guard, whose motto is Semper Paratus, always ready. The President gave the Coast Guard authority to use the Oil Spill Liability Trust Fund to pay for oil spill removal costs. The President delegated this authority on July 15th, 1991.

The Oil Spill Liability Trust Fund has received revenues from five sources: 1) balances transferred from three oil

25. U.S. Coast Guard. Tank Vessel Response Plan. Workshop Summary. N.W. Lemley. Oil Pollution Act Staff. January 22, 1992.

pollution funds terminated in 1990; 2) taxes on domestically produced oil and imported oil refined in the United States; 3) penalties levied by the Coast Guard for spill prevention regulation violations; 4) cost recoveries from the spills on other liable parties; 5) interest earned on fund investments as of March 31, 1991. The fund has total deposits of \$526.6 million. See Exhibit 8 for breakdown.²⁶

Let us now consider how the fund works. The previously mentioned \$526.6 million came from the consolidation of all of the aforementioned sources. The fund has a statutory limit of \$1 billion which will be achieved by having the Internal Revenue Service collect a five cent tax on each barrel of domestically produced oil or imported oil refined in the United States. It is assumed the fund will reach its limit in 1993 provided a major spill does not occur. The Coast guard has recently set up a new administration function, the National Pollution Funds Center (NPFC)²⁷ in Arlington, Virginia to handle the COFR and spill liability trust fund requirements.

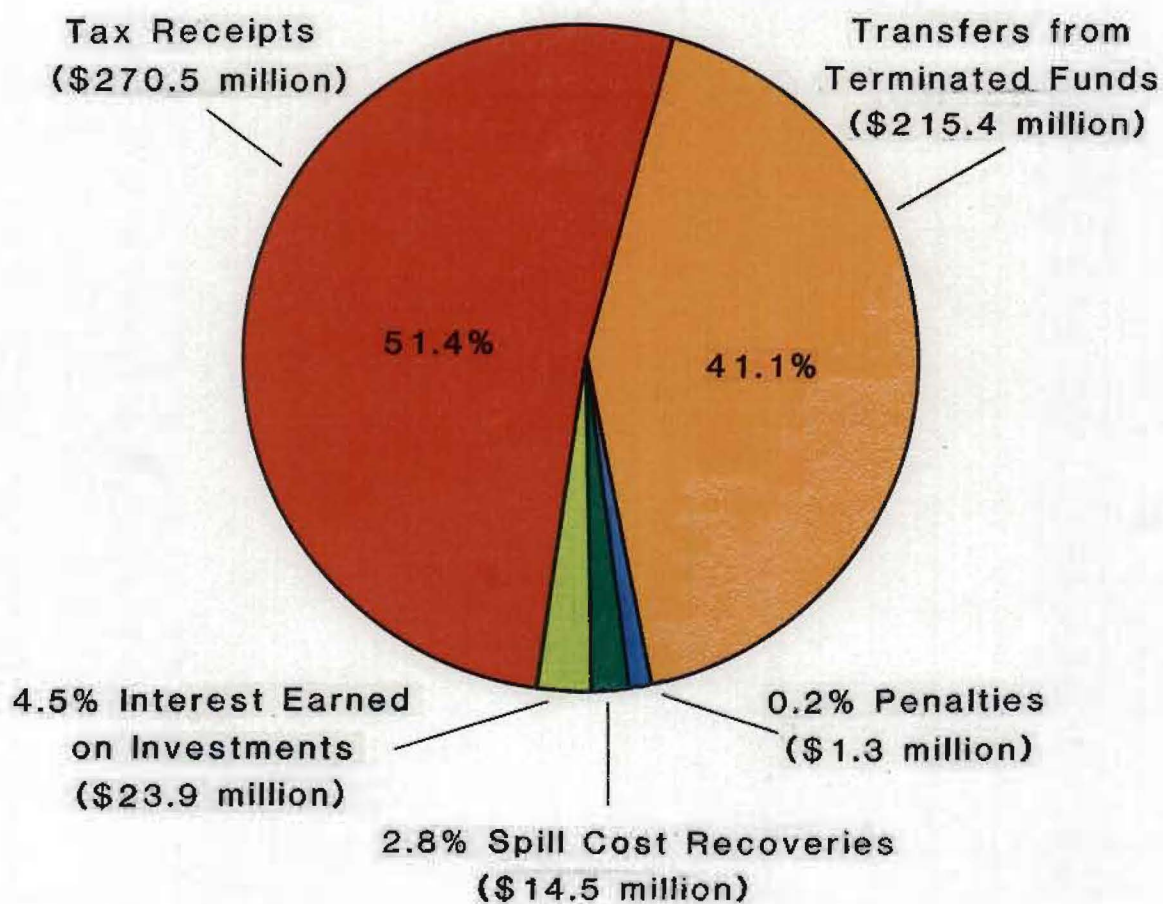
ECONOMIC IMPACT

As the rules governing OPA-90 are formulated and implemented there is a growing awareness that there will be an increase in the cost of transporting oil into the United States. How high

²⁶. Maritime Reporter and Engineering News. Coast Guard to Administer the Oil Spill Liability Trust Fund. October 1991, p. 71.

²⁷. Henn, Arthur E., Rear Admiral. Primary Task of Regulating Action Falls to the Coast Guard. Marine Reporter and Engineering News. September 1991, p. R16.

Exhibit 8



***Sources of Revenues for the Oil Spill Liability Trust Fund
(totals as of March 31, 1991)***

these additional costs will be will not be known until the Coast Guard has finalized the rules and new vessel requirements are implemented.

Additional Costs for Double Hulls.

A key provision of OPA-90 was the requirement for double hull tankers by the year 2010. It is therefore logical to assume new vessels coming into service for the U.S. market will have double hulls to comply with the law. A new double hull vessel designed for equal cargo carrying capacity and greater ballast will be more costly. This is due to the larger external dimensions and the need for more internal steel. This is a capital cost for the vessel since operating cost (excluding liability insurance) would not change by more than five percent.

Vessel sizes and voyage distances are then combined to arrive at an indication of the transportation cost.

The United States seaborne oil requirements of approximately 600 million tons per year are divided into three categories.

Imports	350 million tons or 58 percent	
Coastal	150 million tons or 25 percent	
Alaska	100 million tons or <u>17 percent</u>	28
		100 percent

Average vessel size and voyage lengths are assigned to each trade segment.

Imports	80,000 DWT	8,000 nautical miles round trip
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28. National Research Council. Tanker Spills Prevention by Design. Previously mentioned.

Coastal	40,000 DWT	2,000 nautical miles round trip
Alaska	240,000 DWT	4,000 nautical miles round trip

The incremental costs for double hull tankers annually is estimated at \$712 million per year.²⁹ Indications are that the impact of the cost of crude oil delivered would be in the range of one to two cents per gallon or 40 to 80 cents per barrel.

The transportation cost increase associated with a double hull tanker is indicative only as it relates to long term impact of change in new vessel construction and operation and is based on the less costly foreign flag vessels. The methodology for this cost analysis is shown in Appendix G.

Cost for Liability Insurance

With the passage of OPA-90 several federal statutes were modified which dealt with the issue of spill liability and compensation required under various acts. All these provisions were replaced by a single liability under section 1016 of OPA-90.

This act provides that the Coast Guard may detain and/or seize the vessel using the U.S. waters without a valid certificate of Financial Responsibility (COFR) and U.S. Customs service shall withhold or revoke clearance.³⁰

The teeth of this provision is in section 1016 Financial Responsibility, paragraph F entitled "Claims Against Guarantor."

Vessel insurers known as Protection and Indemnity Clubs (P &

29. Ibid.

30. Department of Transportation. Coast Guard Financial Responsibility for Water Pollution (Vessels) Federal Register, Vol. 56, No. 187, September 26, 1991, Proposed Rule.

I Clubs) are resisting the Coast Guard's strict interpretation of the section. They have insisted they will not provide financial responsibility that would expose them to direct action lawsuits and potentially unlimited liability.³¹

Many insurers have begun adding voyage surcharges as high as the annual premium to vessels carrying petroleum products in U.S. waters. Most tankers are paying 12 times as much for pollution coverage as they did last year.³²

Administrative Costs

The Coast Guard on March 6, 1992 issued an Advanced Notice of Proposed Rulemaking (ANPRN) which said it:

cannot estimate the paperwork burden . . . since it remains to be determined which facilities will be required to prepare plans. However, at a future stage, the Coast Guard will require that affected facility owners or operators prepare and submit response plans, retain records of response plan approvals and equipment inspections. These records must be available for examination upon request by the Coast Guard.³³

At present, no one can estimate these costs but in the same notice the Coast Guard asked for input on over 50 multiple part questions. These included response plans, availability, amount and inspection of equipment for oil removal, training, drills,

31. Sansbury, Tim. Coal, Grain Shippers Fear Backlash of Spill Law. Journal of Commerce, January 28, 1992, p. 10.

32. Plume, Janet. Insurance Financing Begins to Dry Up for U.S. Oil Carriers. Journal of Commerce. August 20, 1991, p. 1B.

33. Department of Transportation: Coast Guard 154 Facility Response Plans, Federal Register, 33 CFR Part 154, CGD 91-036, RIN 2115 AB82, March 6, 1992.

economic issues and subcontractor qualifications.

Additional paperwork requirements include a Certificate of Financial Responsibility, the design for double hull tankers and the new crew manning standards. The Coast Guard's own estimate of 3,500 marine oil transfer facilities will be required to submit response plans. The cost of one facility is estimated between \$20,000. to \$70,000. The combined cost for all of these establishments for the first years operation will range from \$70,000,000. to \$245,000,000.³⁴ These costs exclude all ships and barges, spill contractors, drills, recovery equipment and personnel training.

CONCLUSION

The establishment of MSRC is a direct outcome of OPA-90 which will have a substantial effect on domestic shipment, storage and traffic of oil. The ramifications of the law will be felt internationally and it has set a precedent for prevention of oil spills from tankers throughout the world. It will have a positive impact on the environment of the world. But it will be costly and the public will ultimately bear the burden of the environmental impact.

Viability of MSRC

There can be no question that MSRC is a viable entity. It has been well financed and seem to be well managed. From the outside it appears that the expertise of its management from their Coast Guard training and sea duty experience make them

³⁴. Ibid.

highly qualified to run a marine spill responder organization. They have an organizational structure and have ordered and will have new ships and state of the art recovery and containment equipment.

What may actually happen is that MSRC evolves into the only response company that will pass a Coast Guard inspection to be able to comply with the requirements demanded of a catastrophic spill. It will have local small subcontractors to handle small spills for its members and it can muster sizable resources of its own for a worst case scenario. As it states in the MPA advertisement for members, "MSRC - The only known private resource that will be capable of responding to catastrophic oil spills in U.S. coastal waters".

In a new developing segment of the oil industry which requires oil spill containment and clean up there is no question that MSRC will be the dominant organization. If the corporation was not established as a not-for-profit corporation there would be cause for concern with its economic muscle. A futuristic concern is will MSRC be able to cover its costs or will the MPA members be faced with increasing fees or special assessments to keep the operators in the needed state of readiness.

Risk of Consumer Antagonism

As time progresses the American public will develop an awareness of the additional costs that OPA-90 will impose on them. Gradually the realization that X cents per gallon for heat, energy and gasoline is directly attributable to the

requirements for spill protection. There will also be a realization that hundreds of millions of dollars will have been spent on protecting their environment. Simultaneously a smaller group of citizens will know that MSRC is a quasi-alumni association for former Coast Guard personnel charged with keeping the country's shores free from oil contamination.

The risk envisioned here is that there will be a catastrophic spill along the U.S. coast. It will have high visibility and the MSRC organization and the Coast Guard together will not be able to contain it and clean it up before it reaches the shore. Although a best effort response to clean up a major spill will have been made, in all probability less than ten percent of the spill will be recovered. The remainder will come ashore or be absorbed in the atmosphere or the water column. This doomsday outlook is based on today's recovery technology which is minimally effective. The consequences of this tragedy will be that the Coast Guard will come under severe criticism from Congress and rival environmental agencies for not doing its job. The taxpayers and press will make allegations that will be damning to the Coast Guard and its perceived favoritism toward MSRC. It will be portrayed that the establishment of MSRC was a ploy by big oil interest to circumvent the mandate of OPA-90 by the people and that the Coast Guard was a party to this chicanery. Although this charge will not be true, the exposure to this hypothetical catastrophe would have consequences as profound as the Exxon Valdez grounding.

Possible Improvements

Attempting to address improvements in a new corporation which is not completely in place and is untested in the commercial environment is presumptuous. It is like trying to pick a Kentucky Derby champion from a colt that looks promising but has never seen a track. However here are some thoughts on items not addressed.

Use of obsolete single hull tankers - MSRC does not appear to have any interest in the exclusion in OPA-90 for single hull tankers to engage in mitigating an oil spill. Single hull tanker prices will fall to bargain levels as their age excludes them from the U.S. market. For foreign flag vessels, the International Maritime Organization (IMO) has ruled that 30 year old tankers must be either scrapped or retrofitted to meet new ship standards.³⁵ As of 1990 there were 547 tankers over 29 years old and 463 tankers over 25 years old.³⁶

Tankers of this type, although expensive to maintain, could be legally used for: 1) a storage facility for recovered oil and water from a spill; 2) responding to off load cargo from a ship in danger of breaking up or floundering; 3) training MSRC's customers, crews (not subcontractors) on how to conduct correct tanker damage control while not taking an operating tanker out of

³⁵. Rockwell, Keith and Abrams, Alan. Safety Agency Backs Mid-Deck Tanker Design. Journal of Commerce. March 10, 1992, p. 1.

³⁶. Marine Reporter and Engineering News. Coast Guard Improves Inspection Program to Detect Unsafe Tankers. March 1992, p. 53.

service. 4) researching and developing projects to determine how structural damage occurs and predict failure rate. This would help not only its customers, but the Coast Guard also.

Other suggestions that may be considered to improve MSRC would be to employ more representatives (sales personnel) to talk to their end users and find out what the members want. For example, take over the structural inspections of ships and the training of crews from the membership, at the same time becoming more familiar with the layout and operation of their ships and facilities.

MSRC should also make fees reflect the condition of a member's fleet, charter or facility. Fees should be lower for better maintained and crewed vessels. Is should establish higher rates for less seaworthy vessels on more dangerous or congested routes.

MSRC should train and advise "qualified individuals" named in contingency plans drawn up by members. These decisions the qualified individuals will be called on to make, and the cost obligations and environmental consequences of their decision, should be reviewed.

MSRC can broaden the scope of the assistance it can render to the community thereby enhancing its public image. When breakdowns occur to members or government agencies in communications or power loss, MSRC can render assistance to prevent a public harm by utilizing the portable communication suites or generators it has.

MSRC should consider a more diverse management structure. Its senior management should be more balanced with some choices from commercial or environmental backgrounds to assist in the operations of the company.

Safeguards to the Environment

MSRC will be unique in American business history because the leaders of the petroleum industry recognize that time is running out on our ability to save and protect our planet. With MSRC in operation, that part of the world occupied by the United States will be better protected and react faster to prevent or mitigate man's creeping destruction of our environment. There is a window of opportunity here which must be taken advantage of because man will have fewer safeguards before he creates irreversible destruction of our planet.

The EXXON BATON ROUGE completed loading late on Wednesday, March 29. Early the next morning, Thursday, March 30, a second 75,000 ton tanker, the EXXON SAN FRANCISCO, came alongside the EXXON VALDEZ and cargo transfer to the second lightering vessel began. On Sunday, April 2, the EXXON SAN FRANCISCO completed its lightering operations. A third tanker, the 58,000 ton EXXON BAYTOWN, then came alongside the EXXON VALDEZ to receive substantially all of the remaining recoverable oil and also some of the oily water remaining in the damaged vessel. By Tuesday, April 4, this transfer was completed.

While lightering operations were underway, the Exxon team had worked with salvage experts to develop a plan to refloat the vessel once the recoverable oil was removed. The final plan called for sealing deck openings and using compressed air to force some of the seawater out of the damaged tanks, thus lowering the water level in the tanks and reducing the weight of the vessel. On Wednesday morning, April 5, the combination of compressed air in the damaged tanks and a rising tide resulted in the refloating of the EXXON VALDEZ. Following the refloating of the vessel, it was moved 25 miles to a sheltered cove, in order to complete an assessment of the vessel's condition and to ready it for a sea voyage to a repair facility.

Lightering Summary

	Barrels (GSV) (Thousands)
EXXON VALDEZ initial load	1,263
Lightered to:	
EXXON BATON ROUGE	462
EXXON SAN FRANCISCO	403
EXXON BAYTOWN	119
Barges (subsequent to refloating)	21
Total lightered	1,005
Total spilled	258

NOTE: ALL TIMES ARE ALASKA STANDARD TIME UNLESS OTHERWISE INDICATED. TIME NOTATIONS ARE BASED ON NUMEROUS SOURCES, INCLUDING RECOLLECTIONS OF INDIVIDUALS.

FRIDAY, MARCH 24, 1989

- 0004 Vessel grounded per ship's logs.
- 0027 Captain Hazelwood (Exxon Shipping Company) reported to Coast Guard Center in Valdez that the EXXON VALDEZ was hard aground on Bligh Reef.
- 0123 Nelson (Alyeska Pipeline Service Company) notified Warner (Exxon Pipeline Company) in Houston that the EXXON VALDEZ was grounded in Prince William Sound.
- 0125 Warner notified Iarossi (Exxon Shipping Company) in Houston and gave him Nelson's telephone number.
-- Iarossi called Borgen (Exxon Shipping Company) - told Borgen to contact vessel.
- 0140 Borgen telephoned Myers (Exxon Shipping Company) to call ship right away.

Myers called vessel - spoke with Captain Hazelwood - confirmed grounding and damage.
- 0200 Vessel sounded and ullaged all tanks - vessel stability was a concern.
- 0338 Commander Falkenstein (Coast Guard) arrived at EXXON VALDEZ to review situation.
- 0410 EXXON BATON ROUGE notified to prepare for lightering of EXXON VALDEZ.
- 0448 EXXON VALDEZ put out two shots (180') starboard anchor.
- 0718 EXXON BATON ROUGE arrived Cape Hinchinbrook.
- AM EXXON SAN FRANCISCO notified. Told to anchor and wait to lighter EXXON VALDEZ after the EXXON BATON ROUGE.
- 0842 Commander Falkenstein authorized discharge of dirty ballast from EXXON BATON ROUGE.
- 1035 Pilot boat CHERKOV sounded, surveyed port side and approaches to EXXON VALDEZ for lightering vessel approach.
- 1121 HELENKA B alongside to transfer cargo hoses.
- 1157 Tug SEAFLYER alongside EXXON BATON ROUGE.

- 1230 Tug STALWART alongside EXXON BATON ROUGE.
- 1544 Fenders secured to EXXON VALDEZ.
- 1635 Pilot Joselyn boarded EXXON BATON ROUGE for approach to EXXON VALDEZ.
- 1700~ Weatherford (Exxon Shipping Company) called Borden (Coast Guard West Coast Strike Team) and informed him of the Houston Command Center. Borden indicated that the Coast Guard had sent eight Strike Team personnel plus equipment.
- 1730 Deppe, Borgen, and Myers (all Exxon Shipping Company) arrived in Valdez from West Coast Fleet Office in Benicia, California.
- 1737 Iarossi, Duncan, Rassinier, Nicholas (all Exxon Shipping Company), Marston (Exxon Risk Management Services, Inc.), Lindblom (dispersant consultant) arrived in Valdez from Houston.
- 1745~ Iarossi instructed Deppe to go to EXXON VALDEZ to assess situation and to relieve Captain Hazelwood.
- 1922 Orders received by EXXON BATON ROUGE to go alongside EXXON VALDEZ.
- 2000~ After initial meeting with Commander McCall (Coast Guard) and press conference, Iarossi met with Exxon Response Team.
- 2030 Divers arrived at EXXON VALDEZ, began underwater survey of damage to vessel.
- 2144 EXXON BATON ROUGE all fast to EXXON VALDEZ.
- 2200 Deppe, Myers, Nicholas, Marston arrived at EXXON VALDEZ. Deppe went to bridge to determine vessel status.
- 2230 EXXON SAN FRANCISCO arrived Hinchinbrook.
- 2237 Cargo hoses connected - (2) 6" (EXXON VALDEZ - EXXON BATON ROUGE).
- 2240 Awaited diver report, consultation with Smith (Exxon Shipping Company naval architect), before began pumping.
- 2300 Discussed with Smith - gave preliminary advice not to allow vessel to move from reef (fear of capsizing). Gave preliminary advice about pumping out undamaged port side tanks.
- Hazelwood departed EXXON VALDEZ for Valdez. Deppe in command.
- Deppe agreed that portable pumps would be needed for discharge of damaged tanks - pump from top, let water enter from bottom.
- 2400 Divers found substantial damage over entire starboard side and center tanks. All tanks holed and set in. Initial report vessel aground in vicinity of tank 3C.

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SATURDAY, MARCH 25, 1989

- 0600 EXXON BATON ROUGE, EXXON VALDEZ partially boomed (U-shaped configuration downwind of vessels in direction of the flow of oil).
- EXXON BATON ROUGE supplied additional pipe, blanks, reducers to EXXON VALDEZ for hose connections to increase cargo transfer rates.
- 0736 Commenced cargo discharge to EXXON BATON ROUGE via main cargo pumps.
- 0750 Divers completed initial underwater hull survey of EXXON VALDEZ.
- 0824 Observed oil leaking from EXXON VALDEZ starboard side. Shut down pumps immediately. Decided to use portable pumps for discharge of undamaged tanks. (Approximately 10,000 barrels transferred to EXXON BATON ROUGE before shutdown.)
- 1000 Coast Guard Pacific Strike Team personnel (4) aboard with two submersible pumps - started receiving equipment for on-deck lightering.
- PM Ship's engineers constructed manifold connections for Pacific Strike Team hoses using 16" blanks and 6" pipe from ship stores. Coast Guard Pacific Strike Team began setting up equipment.
- Decided to discharge damaged tanks first
 -- least impact upon vessel trim/stress;
 -- damaged tanks presented greatest potential for further pollution; and
 -- less vertical lift required for complete discharge with small submersible pumps.
- Exxon Command Center initiated supply of submersible pumps to vessel - one from Anchorage, one from Seattle, three from Detroit.
- 2243 Began discharge via two Coast Guard submersible pumps - about 2,000 barrels per hour.
- 2400 About 12,000 barrels discharged to EXXON BATON ROUGE.

SUNDAY, MARCH 26, 1989

- 0600 Four pumps arrived in Anchorage - Exxon Command Center arranged transportation to Valdez.
- AM Connected two more 6" cargo hoses.
- 1200 One pump sent to EXXON VALDEZ via boat.

- 1230 Three pumps arrived in Valdez - diesel fuel sent to vessel for pumps.
- 1500 One pump arrived in Valdez - arranged helicopter to vessel for pump delivery.
- 1830 Dive boat VIXEN alongside for vessel survey operations.
- 1930 Marine Pollution Control sent crew (8) out via vessel COLOMBIA QUEEN for portable pump operation.
- PM Exxon Command Center arranged boat to bring pumps to vessel - pumps transferred across deck of EXXON BATON ROUGE due to rough weather - arranged for two triple header manifolds to be flown to Valdez.

MONDAY, MARCH 27, 1989

- 0015 Triple manifold transportation delayed due to plane problem. Ship's engineers rigged double and triple manifold connections in machine shop.
- 0207 Tug STALWART on starboard bow of EXXON BATON ROUGE asked to push slow ahead on both engines to keep EXXON VALDEZ from pivoting in high winds (about 42 knots).
- 0339 Third pump started.
- AM Spray freezing on deck in heavy winds.
- 0600 Discharging at 3,600 barrels per hour - 77,000 barrels total transferred.
- 1054 Fourth pump started. Three more pumps being set up.
- 1500 Four pumps operating, 3,300 barrels per hour; 105,000 barrels transferred. Arranging three more pumps from Houston - one from New Orleans.
- 2000 EXXON BAYTOWN notified about possibility of lightering.
- 2030 Five pumps on line - about 6,000 barrels per hour.

TUESDAY, MARCH 28, 1989

- 0230 Sixth pump on line.
- 0500 184,000 barrels to BATON ROUGE averaging 7.7k barrels per hour - seven pumps operating.
- 1000 Coast Guard reported two additional strike team members were being placed aboard the EXXON VALDEZ.

- 1328 EXXON BAYTOWN instructed by Exxon to minimize dirty ballast before arrival to maximize cargo capacity.
- 1800 274,000 barrels to BATON ROUGE - averaging 7,000 barrels per hour; six pumps operating, including three Coast Guard Strike Team pumps.
- 1930 Divers inspected under and around EXXON BATON ROUGE for pinnacles to ensure there would be no damage as vessel became lower in water as additional cargo loaded.
- 2200 EXXON BAYTOWN received order to lighter 100,000-150,000 barrels from EXXON VALDEZ.

WEDNESDAY, MARCH 29, 1989

- 0225 Started eighth pump; various pumps used due to pump maintenance, hose leaks, repairs, and shifts between tanks.
- 0500 Transferred 355,000 barrels at about 7,700 barrels per hour - seven pumps on line, requested more pumps.
- AM Engineers began preparations on-deck for sealing deck openings with steel blanks for refloating operation.
- 1036 EXXON SAN FRANCISCO all fast Berth 5 in Valdez to discharge dirty ballast.
- 1200 390,000 barrels transferred to BATON ROUGE - seven pumps operating.
- 1728 EXXON SAN FRANCISCO underway from Berth 5 to lighter the VALDEZ.
- 1800 451,000 barrels transferred to EXXON BATON ROUGE.
- 1922 EXXON SAN FRANCISCO ordered to go to anchor and wait for first light.
- 2042 Finished discharging to EXXON BATON ROUGE.
- 2200 Hoses disconnected.
- 2230 Began letting go.
- 2256 Last line.
- 2312 EXXON BATON ROUGE clear.
- 2318 Dive boat INSPECTOR alongside to survey port side of EXXON VALDEZ hull.
- EXXON BATON ROUGE final cargo volume - 462,015 barrels (GSV).

THURSDAY, MARCH 30, 1989

0330 EXXON BAYTOWN arrived Cape Hinchinbrook.
 0410 Forty drums diesel oil delivered for pumps.
 0434 EXXON SAN FRANCISCO underway from Knowles Head with Pilot Elde.
 0548 Divers reported hole in forepeak leaking oil.
 0606 EXXON BAYTOWN anchored Knowles Head.
 0759 EXXON SAN FRANCISCO off EXXON VALDEZ.
 0830 First line (EXXON SAN FRANCISCO - EXXON VALDEZ).
 0900 Total volume remaining aboard EXXON VALDEZ 556,098 barrels - lightered about 461,686 barrels.
 1136 All fast - EXXON SAN FRANCISCO.
 1330 First hose.
 1426 Last of three hoses - (2) 6", (1) 10".
 1518 Started transfer of cargo to EXXON SAN FRANCISCO.
 1614 Shut down cargo - line up problems aboard EXXON SAN FRANCISCO.
 1745 Resumed transfer.
 1800 Coast Guard reported four additional Strike Team personnel and equipment were being transported to the EXXON VALDEZ.
 2200 Rate 12,000 barrels per hour - nine pumps.

FRIDAY, MARCH 31, 1989

0220 Tenth pump on line.
 AM EXXON SAN FRANCISCO engineers and EXXON VALDEZ engineers worked to secure deck for salvage operation.
 0600 Prime movers (diesel driven hydraulic power packs) - 14, 12 - available, 10 - working; 10 - pumps.
 1200 Total aboard EXXON SAN FRANCISCO - 184,000 barrels.
 Coast Guard reported salvage operation equipment had been airlifted to the EXXON VALDEZ.
 PM Number of pumps varied due to tank switches.

SATURDAY, APRIL 1, 1989

0300 330,366 barrels remained aboard EXXON VALDEZ; EXXON SAN FRANCISCO lightered 260,000 barrels.
 Prime movers - 14, available - 10, working - 7; pumps - 18, available - 17, working - 7.
 0541 Automatic fire alarm sounded on EXXON VALDEZ - shut down all cargo lightering operations - burned toast in galley - tripped system - all personnel aboard mustered at boat stations.
 AM Oil volume in tanks decreasing; therefore, more time required to "strip" and reposition pumps. Continued preparations for vessel float-off.

SUNDAY, APRIL 2, 1989

0500 200,894 barrels remained aboard EXXON VALDEZ.
 0600 Eight pumps on-line - 200,000 barrels left aboard EXXON VALDEZ.
 1030 Started #1 main cargo pump to discharge starboard slop tank to EXXON SAN FRANCISCO.
 1300 Finished cargo to EXXON SAN FRANCISCO.
 1400 Hoses disconnected.
 EXXON BAYTOWN underway to lighter EXXON VALDEZ - Pilot J. Hurd.
 1611 Last line.
 1630 EXXON SAN FRANCISCO clear of EXXON VALDEZ.
 Cargo aboard EXXON SAN FRANCISCO - 402,707 barrels (GSV).
 1705 Tugs CRUSADER and STALWART alongside EXXON BAYTOWN.
 1754 First line.
 1915 All fast - EXXON BAYTOWN.
 2000 Connected (2) 6" hoses.
 2030 Started cargo transfer to EXXON BAYTOWN.

MONDAY, APRIL 3, 1989

0643 Third 6" hose connected - EXXON BAYTOWN.
 0700 Seven pumps in use - 97,000 barrels left aboard EXXON VALDEZ.

1500 70,404 barrels remained on EXXON VALDEZ.

PM Continued plans - continued deck modifications for vessel float-off.

TUESDAY, APRIL 4, 1989

0800 Finished transfer of cargo to EXXON BAYTOWN - 119,306 barrels (GSV).

0850 Hoses disconnected.

0913 Began letting go.

0957 All clear - EXXON BAYTOWN.

PM 16,508 barrels remained aboard EXXON VALDEZ (later updated to 20,761 barrels).

Completed all refloating plans - dry run - final equipment checked for vessel float-off.

All nonessential shoreside employees, regulatory officials began to leave the vessel.

WEDNESDAY, APRIL 5, 1989

AM Remaining nonessential vessel crew and personnel left vessel - only salvage team members onboard.

0620 Pilot E. Murphy aboard.

0700-
0800 Tugs made fast - (2) on hawsers - bow, (1) starboard bow, (1) port bow, (1) starboard quarter, (1) port quarter; began securing tanks - pressuring tanks.

0825 Anchor aweigh.

0920 Fenders away.

1030 Vessel afloat.

NOTE: All cargo volumes from ships' measurements are approximate.

DISPERSANTS AND BURNING

(March 24 - March 29, 1989)

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PUBLIC LAW 101-380—AUG. 18, 1990

104 STAT. 517

(b) **REPORT.**—Not later than 1 year after the date of enactment of this Act, the President shall submit to the Congress a report on the results of the study conducted under subsection (a) and recommendations to implement the results of the study.

(c) **IMPLEMENTATION.**—Not later than 6 months after the date the report required under subsection (b) is submitted to the Congress, the President shall implement the recommendations contained in the report.

SEC. 4114. TANK VESSEL MANNING.

46 USC 8703
note.

(a) **RULEMAKING.**—In order to protect life, property, and the environment, the Secretary shall initiate a rulemaking proceeding within 180 days after the date of the enactment of this Act to define the conditions under, and designate the waters upon, which tank vessels subject to section 3703 of title 46, United States Code, may operate in the navigable waters with the auto-pilot engaged or with an unattended engine room.

(b) **WATCHES.**—Section 8104 of title 46, United States Code, is amended by adding at the end the following new subsection:

“(n) On a tanker, a licensed individual or seaman may not be permitted to work more than 15 hours in any 24-hour period, or more than 36 hours in any 72-hour period, except in an emergency or a drill. In this subsection, ‘work’ includes any administrative duties associated with the vessel whether performed on board the vessel or onshore.”

(c) **MANNING REQUIREMENT.**—Section 8101(a) of title 46, United States Code, is amended—

(1) by striking “and” at the end of paragraph (1);

(2) by striking the period at the end of paragraph (2) and inserting “; and”; and

(3) by adding at the end the following new paragraph:

“(3) a tank vessel shall consider the navigation, cargo handling, and maintenance functions of that vessel for protection of life, property, and the environment.”

(d) **STANDARDS.**—Section 9102(a) of title 46, United States Code, is amended—

(1) by striking “and” at the end of paragraph (6);

(2) by striking the period at the end of paragraph (7) and inserting “; and”; and

(3) by adding at the end the following new paragraph:

“(8) instruction in vessel maintenance functions.”

(e) **RECORDS.**—Section 7502 of title 46, United States Code, is amended by striking “maintain records” and inserting “maintain computerized records”.

SEC. 4115. ESTABLISHMENT OF DOUBLE HULL REQUIREMENT FOR TANK VESSELS.

(a) **DOUBLE HULL REQUIREMENT.**—Chapter 37 of title 46, United States Code, is amended by inserting after section 3703 the following new section:

“§ 3703a. Tank vessel construction standards

“(a) Except as otherwise provided in this section, a vessel to which this chapter applies shall be equipped with a double hull—

“(1) if it is constructed or adapted to carry, or carries, oil in bulk as cargo or cargo residue; and

- "(2) when operating on the waters subject to the jurisdiction of the United States, including the Exclusive Economic Zone.
- "(b) This section does not apply to—
- "(1) a vessel used only to respond to a discharge of oil or a hazardous substance;
- "(2) a vessel of less than 5,000 gross tons equipped with a double containment system determined by the Secretary to be as effective as a double hull for the prevention of a discharge of oil; or
- "(3) before January 1, 2015—
- "(A) a vessel unloading oil in bulk at a deepwater port licensed under the Deepwater Port Act of 1974 (33 U.S.C. 1501 et seq.); or
- "(B) a delivering vessel that is offloading in lightering activities—
- "(i) within a lightering zone established under section 3715(b)(5) of this title; and
- "(ii) more than 60 miles from the baseline from which the territorial sea of the United States is measured.
- "(c)(1) In this subsection, the age of a vessel is determined from the later of the date on which the vessel—
- "(A) is delivered after original construction;
- "(B) is delivered after completion of a major conversion; or
- "(C) had its appraised salvage value determined by the Coast Guard and is qualified for documentation under section 4136 of the Revised Statutes of the United States (46 App. U.S.C. 14).
- "(2) A vessel of less than 5,000 gross tons for which a building contract or contract for major conversion was placed before June 30, 1990, and that is delivered under that contract before January 1, 1994, and a vessel of less than 5,000 gross tons that had its appraised salvage value determined by the Coast Guard before June 30, 1990, and that qualifies for documentation under section 4136 of the Revised Statutes of the United States (46 App. U.S.C. 14) before January 1, 1994, may not operate in the navigable waters or the Exclusive Economic Zone of the United States after January 1, 2015, unless the vessel is equipped with a double hull or with a double containment system determined by the Secretary to be as effective as a double hull for the prevention of a discharge of oil.
- "(3) A vessel for which a building contract or contract for major conversion was placed before June 30, 1990, and that is delivered under that contract before January 1, 1994, and a vessel that had its appraised salvage value determined by the Coast Guard before June 30, 1990, and that qualifies for documentation under section 4136 of the Revised Statutes of the United States (46 App. U.S.C. 14) before January 1, 1994, may not operate in the navigable waters or Exclusive Economic Zone of the United States unless equipped with a double hull—
- "(A) in the case of a vessel of at least 5,000 gross tons but less than 15,000 gross tons—
- "(i) after January 1, 1995, if the vessel is 40 years old or older and has a single hull, or is 45 years old or older and has a double bottom or double sides;
- "(ii) after January 1, 1996, if the vessel is 39 years old or older and has a single hull, or is 44 years old or older and has a double bottom or double sides;

"(iii) after January 1, 1997, if the vessel is 38 years old or older and has a single hull, or is 43 years old or older and has a double bottom or double sides;

"(iv) after January 1, 1998, if the vessel is 37 years old or older and has a single hull, or is 42 years old or older and has a double bottom or double sides;

"(v) after January 1, 1999, if the vessel is 36 years old or older and has a single hull, or is 41 years old or older and has a double bottom or double sides;

"(vi) after January 1, 2000, if the vessel is 35 years old or older and has a single hull, or is 40 years old or older and has a double bottom or double sides; and

"(vii) after January 1, 2005, if the vessel is 25 years old or older and has a single hull, or is 30 years old or older and has a double bottom or double sides;

"(B) in the case of a vessel of at least 15,000 gross tons but less than 30,000 gross tons—

"(i) after January 1, 1995, if the vessel is 40 years old or older and has a single hull, or is 45 years old or older and has a double bottom or double sides;

"(ii) after January 1, 1996, if the vessel is 38 years old or older and has a single hull, or is 43 years old or older and has a double bottom or double sides;

"(iii) after January 1, 1997, if the vessel is 36 years old or older and has a single hull, or is 41 years old or older and has a double bottom or double sides;

"(iv) after January 1, 1998, if the vessel is 34 years old or older and has a single hull, or is 39 years old or older and has a double bottom or double sides;

"(v) after January 1, 1999, if the vessel is 32 years old or older and has a single hull, or 37 years old or older and has a double bottom or double sides;

"(vi) after January 1, 2000, if the vessel is 30 years old or older and has a single hull, or is 35 years old or older and has a double bottom or double sides;

"(vii) after January 1, 2001, if the vessel is 29 years old or older and has a single hull, or is 34 years old or older and has a double bottom or double sides;

"(viii) after January 1, 2002, if the vessel is 28 years old or older and has a single hull, or is 33 years old or older and has a double bottom or double sides;

"(ix) after January 1, 2003, if the vessel is 27 years old or older and has a single hull, or is 32 years old or older and has a double bottom or double sides;

"(x) after January 1, 2004, if the vessel is 26 years old or older and has a single hull, or is 31 years old or older and has a double bottom or double sides; and

"(xi) after January 1, 2005, if the vessel is 25 years old or older and has a single hull, or is 30 years old or older and has a double bottom or double sides; and

"(C) in the case of a vessel of at least 30,000 gross tons—

"(i) after January 1, 1995, if the vessel is 28 years old or older and has a single hull, or 33 years old or older and has a double bottom or double sides;

"(ii) after January 1, 1996, if the vessel is 27 years old or older and has a single hull, or is 32 years old or older and has a double bottom or double sides;

1100 DISTRIBUTION

United States Coast Guard
Providence, Rhode Island
Operations Officer,
Lt. Mark O'Malley

1101 Federal

COMDT (G-MER) (3)
CCGD1 (MEP) (3)
COMCOGARDGRU LONG ISLAND SOUND (1)
COMCOGARDGRU WOODS HOLE, MA (3)
COMCOGARDLANT (1)
NSFLANT (1)
COGARD ANT BRISTOL (1)
CG STA CASTLE HILL (1)
CG STA POINT JUDITH (1)
CG STA BRANT POINT (1)
CG STA CAPE COD CANAL (1)
CG STA CHATHAM (1)
CG STA MENEMSHA (1)
CG STA PROVINCETOWN (1)
CG STA WOODS HOLE (1)
COGARD MSO BOSTON (2)
COGARD MSO PORTLAND (2)
COGARD COTP LONG ISLAND SOUND (2)
COGARD AIRSTA CAPE COD (1)
USN CBC CENTER DAVISVILLE (1)
EPA LEXINGTON, MA. (2)
EPA, ERT, EDISON, N.J. (1)
NOAA, SSC (2)
OTIS AFB (1)
NETC NEWPORT, R.I. (1)
NAVSUBBASE NEW LONDON CT. (1)
USACOE, WALTHAM, MA. (1)
DOI REGIONAL OFFICE, BOSTON, MA. (1)
USGS, PROVIDENCE, R.I. (1)
FEMA, BOSTON, MA. (1)
FISH AND WILDLIFE, WESTBORO, MA. (1)
U.S. DEPT OF AGRICULTURE, WARWICK R.I. (1)
U.S. CUSTOMS, PROVIDENCE, R.I. (1)

1102 STATE1102.1 MASSACHUSETTS

Dept of Environmental Protection (1)
DEP, Boston (1)
DEP, SE Region Lakeville(2)
Div. of Solid Waste Management (1)
Dept of Marine Resources (1)
Dept of Fish and Wildlife (1)
State Police (1)
Dept of Transportation(1)
Dept of Civil Emergency Preparedness (7)
State Fire Marshal (1)

Railroad Commission, Worcester (1)
Div. of Water Pollution Control (1)
Div. of Law Enforcement (1)
Coastal Zone Management (1)
USACE Cape Cod Canal(1)
Police and Fire Departments
 Fall River (2)
 New Bedford (2)
 Hyannis (2)
 Nantucket (2)
 Martha's Vineyard (2)
 Somerset (2)

1102.2 RHODE ISLAND

Narragansett Bay Commission (2)
DEM (3)
Dept of Fish and Wildlife (1)
Emergency Response Commission (2)
Port Authority (3)
State Fire Marshall (1)
State Police (1)
Dept of Transportation (1)
Railroad Commission, Woonsocket (1)
N.E. Pilots (1)
Police and Fire Departments
 Providence (2)
 Pawtucket (2)
 E. Providence (2)
 Cranston (2)
 Warwick (2)
 E. Greenwich (2)
 Newport (2)
 Westerly (2)
 Bristol (2)
 Barrington (2)
 Warren (2)
 Jamestown (2)
 Narragansett (2)
 N. Kingstown (2)
 Block Island (2)

1103 LOCAL AGENCIES

1103.1 Contractors

Liquid Waste Specialists (1)
Jet-Line Services Inc. (1)
Pollution Control Unlimited Inc. (1)
Northeast Marine Contractors (1)
Clean Harbors Inc. (1)

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STATE OF TENNESSEE

CHARTER

1990 JUL 30 AM 10 51

OF

BRYANT MILLSAPS MARINE SPILL RESPONSE CORPORATION
SECRETARY OF STATE

We, the undersigned natural persons over the age of 18, acting as incorporators of a corporation under the Tennessee Nonprofit Corporation Act, do hereby adopt the following Charter for such corporation:

ARTICLE I

The name of the Corporation is Marine Spill Response Corporation.

ARTICLE II

The Corporation is a mutual benefit corporation organized exclusively to promote the welfare of the public by mitigating environmental damage to the coastal and certain upstream waters of the Continental United States, Hawaii, Alaska, Puerto Rico and the Virgin Islands through:

(a) the establishment of a program to render its best efforts to contain and cleanup --

(i) catastrophic and other oil spills in coastal zone or tidal waters of the United States (including in particular open sea spills estimated to be in excess of 25,000 barrels and protected water spills estimated to be in excess of 40,000 barrels);

(ii) any oil spill in U.S. coastal zone and tidal waters judged by the U.S. Coast Guard to be in excess of the local oil spill response capability;

(iii) any spill of a cargo of a vessel traversing inland U.S. waters upstream from a river mouth on its way to or from an upstream facility, provided the cargo of the vessel would otherwise be (or have been) on its way to or from an upstream facility on a voyage that either took or would have taken it into the open sea, coastal zone or tidal waters of the United States, and provided the spill is judged by the U.S. Coast Guard to be in excess of the local oil spill response capability; and

(iv) any other spill where the corporation is retained by the Coast Guard and directed to respond;

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BRYANT HILLS
SECRETARY OF STATE

the development and maintenance of a comprehensive data bank of oil spill response resources and related information; the carrying out of training and review of local capabilities to help assure their readiness;

(c) the identification and management of selected oil spill research projects; and

(d) the doing of such other things as may be necessary to achieve the foregoing.

ARTICLE III

The street address of the principal office of the Corporation is 1220 L Street, N.W., Suite 612, Washington, D.C. 20005

The initial registered office of the Corporation is 530 Gay Street, Knoxville, Knox County, Tennessee, 37902, and the name of its initial registered agent at such address is C T Corporation System.

ARTICLE IV

The names and residences of the three persons who shall serve as the initial Board of Directors and until their successors are duly elected and qualified are as follows:

<u>Name</u>	<u>Address</u>
John D. Costello	1220 L Street, N.W. Suite 612 Washington, D.C. 20005
Alan D. Breed	1220 L Street, N.W. Suite 612 Washington, D.C. 20005
Stephen F. Saine	1220 L Street, N.W. Suite 612 Washington, D.C. 20005

The initial Board of Directors shall serve until such time as a full nine (9) person Board of Directors is elected pursuant to Article VIII hereof.

ARTICLE V

The Corporation shall have no members.

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1950 JUL 30 AM 10 51

The period of the Corporation's duration is perpetual.
BRYANT MILLSAPS
SECRETARY OF STATE

ARTICLE VI

ARTICLE VII

A. The Corporation is not for profit. No part of the net earnings of the Corporation shall inure to the benefit of, or be distributed to, its directors, officers, or other private persons, except that the Corporation shall be authorized and empowered to pay reasonable compensation for services rendered and to make payments and distributions in furtherance of the purposes set forth herein.

B. The Corporation shall not have the power to engage in any activities, except to an insubstantial degree, that are not in furtherance of the purposes set forth in Article II above.

C. The Corporation shall not respond to any spill estimated to be in excess of 1,200 barrels unless the United States Coast Guard has exercised its authority to coordinate and direct or to federalize the spill and the Corporation has been satisfied that its costs will be reimbursed by prearrangement with either (1) a member of the Marine Preservation Association, an Arizona corporation (the "Association"), or (2) the U. S. Coast Guard.

D. The Corporation shall not participate in the development or approval of oil spill cleanup contingency plans for the vessels or facilities of any owner or class of owners.

E. The Corporation shall maintain standing as a qualified oil spill cleanup response organization for purposes of federal (and, where approved by the Board of Directors, state) law pertaining to oil spill cleanup responsibility or liability. The Corporation shall authorize members of the Association to identify the Corporation as being available for such assistance in contingency plans filed with the United States Coast Guard or any other department or agency of the federal government, provided that such authorization shall not be made available to any organization which is not a member (or a deemed member) of the Association or to any member which does not agree to comply with such policies and procedures as the Corporation may reasonably adopt.

ARTICLE VIII

The full and complete management and control of the Corporation shall be vested in the Board of Directors. The Board

1593 have 90 and 40 (5) of Directors shall be an independent body. The Corporation shall shall be divided into three (3) classes of three (3) directors each designated as Class I, Class II, and Class III. At the first annual meeting of the Board of Directors, the initial directors shall elect nine (9) directors, dividing such directors into Classes I, II, and III, with the terms of such directors expiring three (3), four (4), and five (5) years, respectively, after their election. Commencing with the expiration of the terms of the initial Class I directors, and thereafter on an annual basis, successors to the directors whose terms are expiring shall be elected by the Board of Directors (including the outgoing directors) to hold office for a three-year term, so that the term of office of one (1) class of directors shall expire each year. Any vacancy on the Board of Directors shall be filled by the remaining members of the Board of Directors. The qualifications, duties, and other matters relating to the Board of Directors shall be as provided in the By-laws, provided that a change in the number of directors shall be made only by amendment of the Charter pursuant to Article X hereof.

ARTICLE IX

The power to adopt, alter, amend, or repeal the By-laws of the Corporation shall be vested in the Board of Directors, provided that any such action to adopt, alter, amend, or repeal By-laws shall require the vote of two-thirds (2/3) of the directors.

ARTICLE X

An amendment of Article II or Article X of this Charter pursuant to the Tennessee Nonprofit Corporation Act shall require the unanimous vote of the directors, and any other amendment of this Charter pursuant to the Tennessee Nonprofit Corporation Act shall require the vote of two thirds (2/3) of the directors.

ARTICLE XI

The Corporation is a nonprofit corporation and shall have all of the powers, duties, authorizations, and responsibilities as provided in the Tennessee Nonprofit Corporation Act; provided, however, that the Corporation shall neither have nor exercise any power, nor shall it engage directly or indirectly in any activity, that would invalidate its status as a corporation that is exempt from federal income taxation as an organization described in Section 501(c)(4) of the Internal Revenue Code of 1986, as amended, or corresponding provisions of any subsequent federal tax law (hereinafter referred to as the "Code"). Since

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501(c)(3) 501(c)(3) 501(c)(3)
190 JUL 30 AM 10 58
The Corporation is not an organization described in Section 501(c)(3) of the Code, for purposes of the Tennessee Nonprofit Corporation Act this Corporation is a mutual benefit corporation as defined in Section 48-68-104 of such Act.

190 JUL 30 AM 10 58
SECRETARY OF STATE

ARTICLE XII

A director of the Corporation shall not be personally liable to the Corporation for monetary damages for breach of fiduciary duty as a director except for liability (1) for any breach of the director's duty of loyalty to the Corporation, (2) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of the law, or (3) under Section 48-58-304 of the Tennessee Nonprofit Corporation Act. Any repeal or amendment of this Article XII by the Corporation shall be prospective only and shall not adversely affect any limitation on the personal liability of a director existing at the time of such repeal or amendment. In addition to the circumstances in which a director of the Corporation is not personally liable as set forth in the first sentence of this Article XII, a director shall not be liable to the Corporation to such further extent as permitted by applicable law and any law hereafter enacted, including, without limitation, any subsequent amendments of the Tennessee Nonprofit Corporation Act.

ARTICLE XIII

Upon the dissolution of the Corporation, no director, officer, or private person shall be entitled to any distribution or division of its remaining property or its proceeds, and the balance of all money and other property received by the Corporation from any source, after the payment of all debts and obligations of the Corporation, shall be used or distributed exclusively for purposes within the scope of Section 501(c)(3) or (c)(4) of the Code. Any such assets not so disposed of shall be disposed of by the appropriate court of the county in which the principal office of the Corporation is then located exclusively for the purposes described in the preceding sentence, or to such organization or organizations as said court shall determine which are organized and operated exclusively for such purposes.

ARTICLE XIV

The name and street address of the incorporators are as follows:

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STATE OF TENNESSEE

1990 JUL 30 AM 10 52
John D. Costello

BRYANT MILLSAPS
SECRETARY OF STATE

Alan D. Breed

Stephen F. Saine

Address

1220 L Street, N. W.
Suite 612
Washington, D. C. 20005

1220 L Street, N. W.
Suite 612
Washington, D. C. 20005

1220 L Street, N. W.
Suite 612
Washington, D. C. 20005

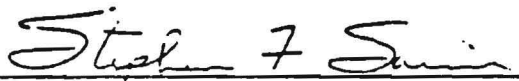
In witness whereof, we have signed and acknowledged this
Charter this 27th day of July, 1990.



John D. Costello, Incorporator

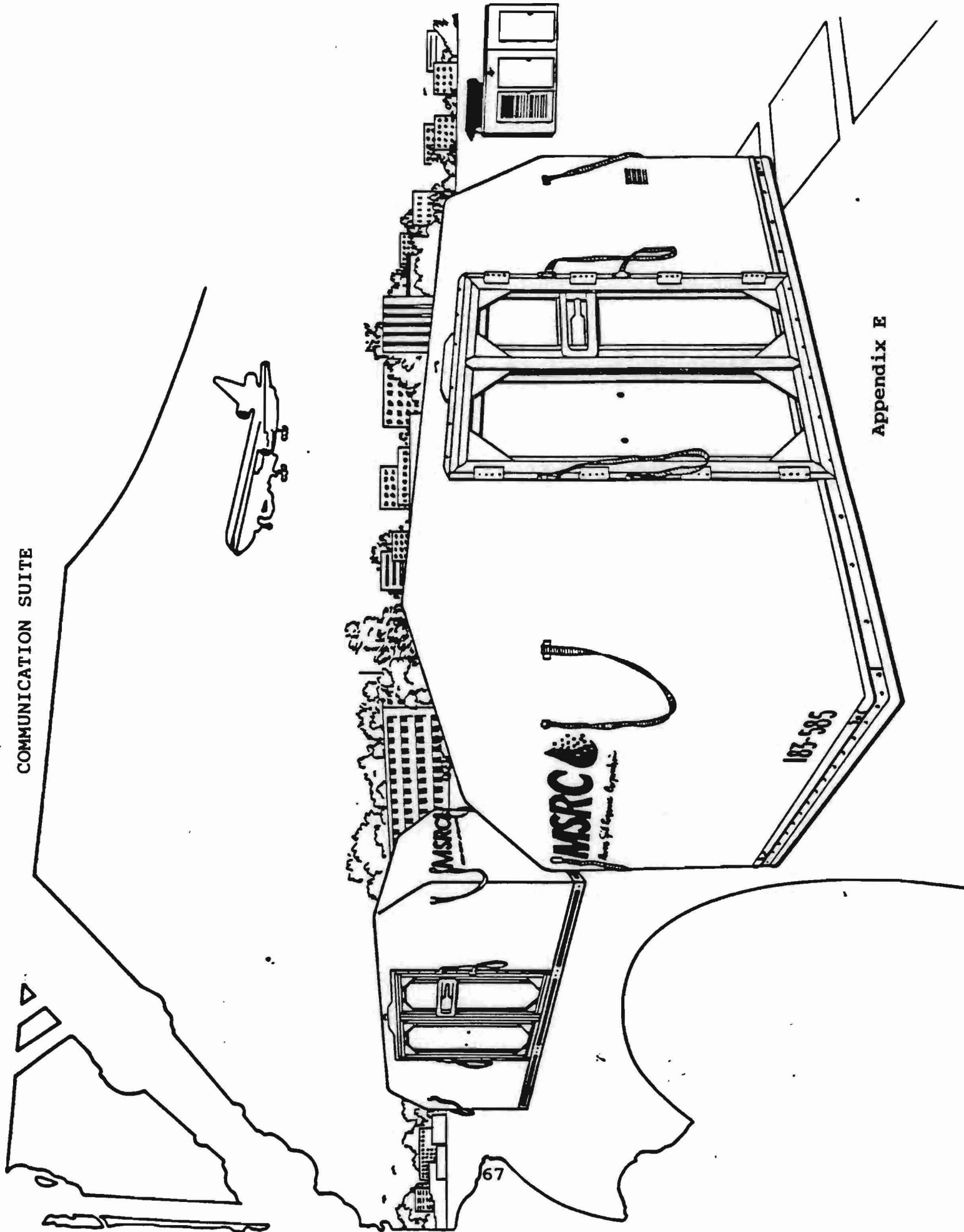


Alan D. Breed, Incorporator

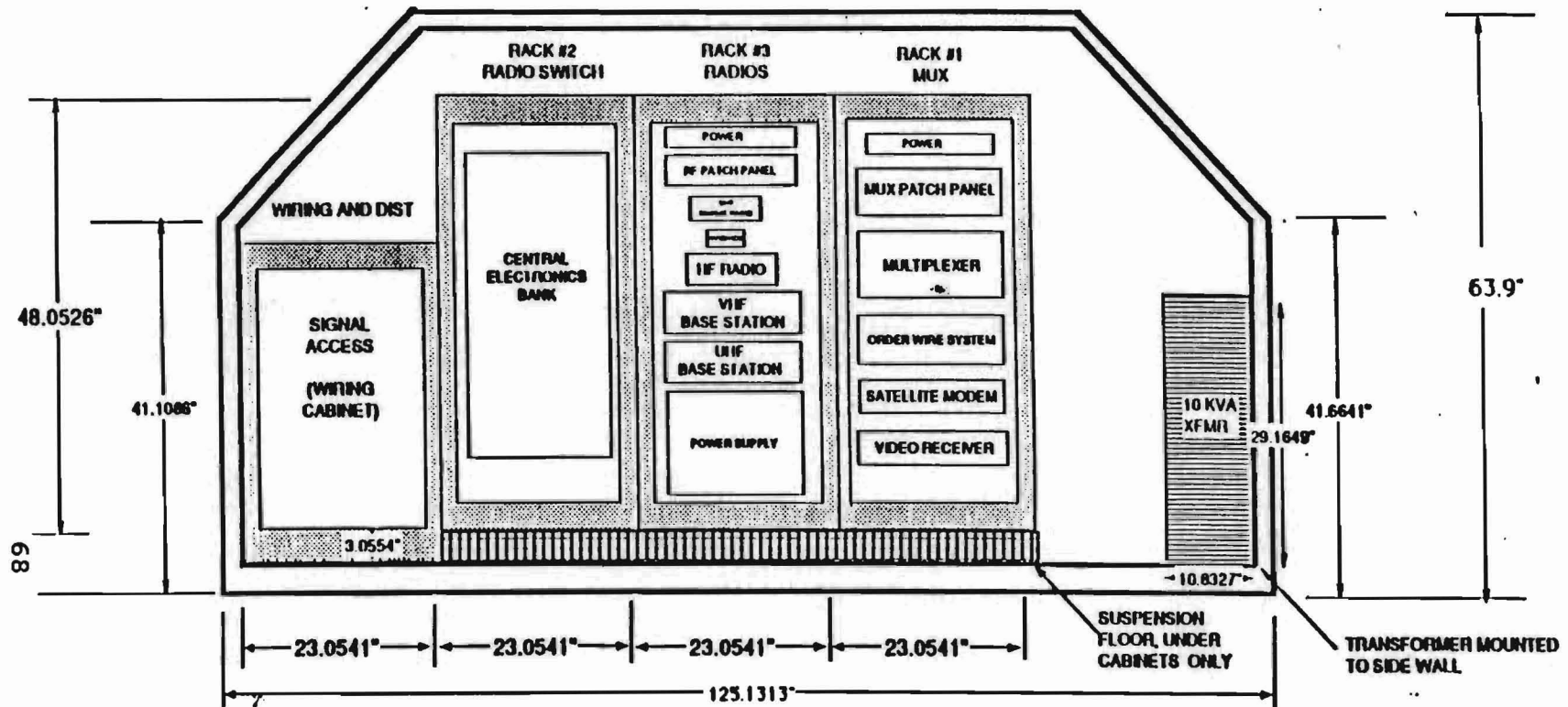


Stephen F. Saine, Incorporator

COMMUNICATION SUITE



**COMMUNICATION SUITE
VIEW FROM FRONT**

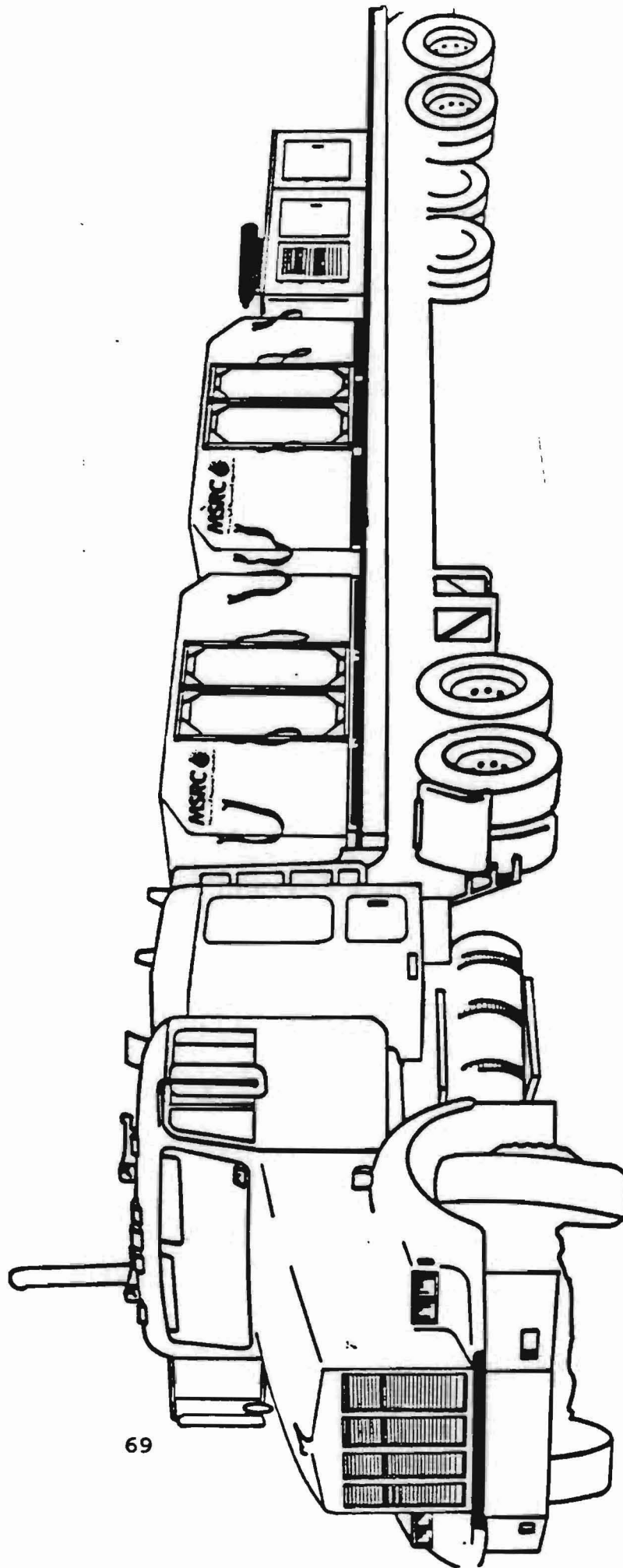


SMALL CABINET : ZERO # KC61633
TALL CABINET : ZERO # KC61634
AC/HEATER RACK : ZERO # KC61635

SMALL CABINET TO BE
BOLTED DIRECTLY TO
CONTAINER FLOOR

EDS TRANSMISSION ENGINEERING Electronic Data Systems Corp.	ENG.	Jeb Wilson	TITLE	LD-9	DETAIL VIEW	FRONT, FILLED
	WR #		VER.	01.00	DATE	07/18/91
	APPVD		SCALE		PAGE	01
LD-9, VIEW FROM FRONT, EQUIPMENT SPACING						

TRANSPORTATION OF COMMUNICATIONS SUITE



**BY-LAWS
OF
MARINE SPILL RESPONSE CORPORATION**

**ARTICLE I
GOVERNING POLICIES**

1.1. Spills to Which the Corporation Will Respond. The corporation is organized to promote the welfare of the public by mitigating environmental damage to the coastal and certain upstream waters of the Continental U.S., Hawaii, Alaska, Puerto Rico and the Virgin Islands. The policies of the corporation with respect to the types of oil spills to which it will respond shall be as follows:

(a) Catastrophic Spills. Each region shall be designed to respond primarily to catastrophic and other oil spills of up to 216,000 barrels in coastal zone or tidal waters of the United States (including in particular open sea spills estimated to be in excess of 25,000 barrels and protected water spills estimated to be in excess of 40,000 barrels);

(b) Spills Exceeding Local Capability. Subject to any limitations contained in the Corporation's charter or these by-laws, each region shall use its best efforts to respond to any oil spill in U.S. coastal zone and tidal waters judged by the United States Coast Guard to be in excess of the local oil spill response capability.

(c) Certain Inland Waters. Subject to any limitations contained in the Corporation's charter or these by-laws, each region shall use its best efforts to respond to any spill of a cargo of a vessel traversing inland U.S. waters upstream from a river mouth on its way to or from an upstream facility, provided the cargo of the vessel would otherwise be (or have been) on its way to or from an upstream facility on a voyage that either took or would have taken it into the open sea, coastal zone or tidal waters of the United States, and provided the spill is judged by the U.S. Coast Guard to be in excess of the local oil spill response capability.

(d) Other Spills. Each region shall be authorized to respond to any other spill where the corporation is retained by the Coast Guard and directed to respond.

(e) Federal Coordination and Direction or Funding. The corporation shall not respond to any spill in excess of 1,200 barrels unless (I) the United States Government has exercised its authority to coordinate and direct or to federalize the spill and (II) either (A) the spiller is identified and is a member of Marine Preservation Association, an Arizona nonprofit corporation (the "Association"), or (B) either (1) the spiller is identified and is a member of the Association, or (2) the spiller is unidentified or is not a member of the Association and the U.S. government has entered into an agreement with the Corporation.

guaranteeing reimbursement of the Corporation's costs incurred in responding.

(f) Minor Spills. For spills of less than 1,200 barrels where the Coast Guard has judged that the spill exceeds local oil spill response capabilities, the corporation shall be authorized to participate in the spill response as a subcontractor responsible only for providing equipment and equipment supervision, provided it has received acceptable indemnification assurances from the spiller.

1.2. Vessel and Facility Owner Contingency Plans. The corporation shall not participate directly or otherwise in the development of individual vessel or facility owner contingency plans, nor shall it advise on or approve the adequacy of any vessel or facility owner's contingency plans, except in regard to the corporation's own response capabilities.

1.3. Agreement to Provide Services. The corporation shall be authorized to enter into an agreement with the Association, obligating the corporation to provide oil spill response services in a manner consistent with its charter and these by-laws to the members of the Association and authorizing members of the Association to identify the corporation as their catastrophic spill subcontractor in the preparation of such member's oil spill contingency plans. In entering into any such agreement, the corporation shall require that it be given the opportunity to review in advance those portions of each Association member's contingency plans which relate to the obligations and abilities of the corporation to ascertain that such plans accurately describe the corporation's cleanup capabilities and responsibilities.

1.4. Deeming Option. For purposes of Section 1.3 above, any vessel whose cargo is destined for delivery to a member of the Association shall be deemed to be a vessel of a member of the Association for a particular voyage, if (1) the receiving member elects in advance such treatment for the cargo by notifying the Corporation in writing, (2) the receiving member accepts responsibility for reimbursing the corporation in the event of a spill by such vessel, and (3) such vessel otherwise meets any federal certification requirements.

1.5. Disposal of Waste and Hazardous Material. To the extent possible, the corporation shall avoid undertaking management of the disposal of waste oils and other materials collected during cleanup and removal operations. With respect to the removal of waste oils and other regulated materials, the corporation shall delegate these removal obligations to subcontractors to the maximum extent permissible under law.

1.6. Borrowing and Liabilities. In addition to the powers provided by law, the corporation shall be authorized to borrow money and to assume or become secondarily liable for the obligations of the Association when such obligations are undertaken for the benefit of the corporation.

ARTICLE II BOARD OF DIRECTORS

2.1. Number, Qualifications, Tenure, and Election. The direction and management of the affairs of the corporation and the control and disposition of its properties and funds shall be vested in a Board of Directors (the "Board"). A director need not be a resident of the State of Tennessee. The directors named in the charter shall hold office until the first annual meeting of the Board and until their successors are elected and qualified. At the first annual meeting of the Board, there shall be elected nine (9) directors, who shall be divided into three (3) classes, designated as Class I, II and III, of three (3) directors each. Class I shall serve for three (3) years, Class II for four (4) years, and Class III for five (5) years, from the date of the first annual meeting. Commencing with the expiration of the terms of the initial Class I directors, and thereafter on an annual basis, successors to the directors whose terms are expiring shall be elected to the Board to serve three (3) year terms, so that the term of office of one class of directors shall expire each year. Of the nine (9) persons serving as directors at any time, seven (7) of such persons shall be either current or retired senior-level business or government executives, former military (including Coast Guard) officers, or members of the legal or accounting professions. The remaining two (2) directors shall be persons from the environmental science, academic, or not-for-profit fields. No person shall serve as a director of the corporation if such person has ever served as a director of the Association; if at the same time such person is serving as an officer of the corporation (other than as president); or if such person has within the previous two (2) years been employed by any member of the petroleum or energy industries or the related petroleum transportation industry. Each director shall serve as such for his term of office and until his successor shall have been duly elected and qualified or until his earlier death, resignation, disability or removal. A director may serve for more than one (1) term and may be elected for unlimited successive terms.

2.2. Vacancies. A vacancy shall be declared in any seat on the Board upon the death or resignation of the occupant thereof, upon the disability of any occupant rendering him permanently incapable of participating in the management and affairs of the corporation, or upon removal for cause by the affirmative vote of two-thirds (2/3) of the directors (other than the director being voted on) then serving at a special meeting of the directors called for such purpose. For this purpose, "cause" for removal shall be deemed to exist if a director willfully and materially breaches or habitually neglects his duties as a director of the corporation, is grossly negligent in carrying out his duties as a director, engages in fraud on the corporation, engages in any other act materially detrimental to the best interests of the corporation, or is convicted of a felony. In the event of a vacancy in any seat on the Board, the remaining directors shall, as soon as reasonably possible, eliminate such vacancy by selecting a new person to be director for a term equal to the unexpired term of the former occupant thereof.

2.3. Annual Meeting. The annual meeting of the Board shall be held at a time and place to be determined by the Board on the first Tuesday in April of each year and if not so held, then as soon thereafter as convenient. At such meeting, officers shall be elected, annual reports considered and acted upon, and such other business as shall properly come before the meeting shall be transacted.

2.4. Regular Meetings. Regular meetings of the Board may be held at such time and place as shall from time to time be determined by the Board. At least ten (10) days notice of each regular meeting shall be given to each director.

2.5. Special Meetings. Special meetings of the Board shall be held whenever called by the secretary of the corporation upon the direction of the president of the corporation or upon written request of any two (2) directors; and it shall be the duty of the secretary to give sufficient notice of such meetings in person or by mail, telex, or telegraph to enable the directors so notified to attend such meetings.

2.6. Quorum for Meetings. A majority of the directors shall constitute a quorum for the transaction of business at all meetings convened according to these by-laws. The act of a majority of the directors present at any meeting at which there is a quorum shall be the act of the Board, except as may be otherwise provided by law, the charter or these by-laws.

2.7. Telephone Attendance. At any meeting of the Board, a director may attend by telephone, radio, television, or other similar means of communication, provided that all persons participating in the meeting can hear each other. A director so attending shall be deemed to be present at the meeting for all purposes, including a determination of whether a quorum is present.

2.8. Notice. It shall be the duty of the secretary to give sufficient notice of all regular and special meetings to enable the directors so notified to attend such meetings. Whenever under any provision of an applicable statute, the charter or these by-laws, notice is required to be given to a director and no provision is made as to how such notice shall be given, it shall not be construed to mean personal notice, but any such notice may be given in writing by mail, postage prepaid, addressed to such director at such address as appears on the books of the corporation. Any notice required or permitted to be given by mail shall be deemed to be given at the time when the same shall be deposited in the United States mails as aforesaid.

2.9. Waiver of Notice. Notice of a meeting may be waived if before or after the meeting each of the directors not present signs a written waiver of notice or consent to the holding of such meeting, or in writing approves the minutes thereof. All such waivers, consents or approvals shall be filed with the corporate records or made a part of the minutes of the meeting.

2.10. Attendance as Waiver. Attendance of a director at a meeting shall constitute

a waiver of notice of such meeting except where a director attends a meeting for the express purpose of objecting to the transaction of any business on the ground that the meeting is not lawfully called or convened.

2.11. Business to be Transacted. The business to be transacted at any annual, regular or special meeting need not be specified in the notice or waiver of notice of such meeting, unless specifically required by law.

2.12. Consent to Action. All actions taken at a meeting of the Board which is not regularly called or noticed shall be valid as if taken at a meeting regularly called and noticed if all directors consent in one of the following manners: either by a writing on the records of a meeting of the Board filed with the secretary, or by presence at such meeting and oral consent entered in the minutes of such meeting, or by taking part in the deliberations undertaken at such meeting without objection. At such meeting any business may be transacted which is not excepted from the written consent or which is not objected to at such meeting for want of notice. If any meeting of the Board is irregular for want of notice, the proceedings may be ratified, approved and rendered valid, and the irregularity or defect therein waived, by a writing signed by all directors, provided a quorum was present at such meeting.

2.13. Action Without a Meeting. Any action required to be taken at a meeting of the directors of the corporation, or any action which may be taken at a meeting of the directors of the corporation or of any committee, may be taken without a meeting if a consent in writing setting forth the action to be taken shall be signed by all of the directors, or all of the members of the committee, as the case may be.

2.14. Compensation. Directors, in their capacity as directors, may receive, by resolution of the Board, a fixed sum and expenses of attendance for attending meetings of the Board or a stated annual remuneration or both. No director shall, except as provided above, be precluded from serving the corporation in any other capacity or receiving compensation therefore.

ARTICLE III GENERAL OFFICERS

3.1. Election, Term and Removal. The Board shall nominate and elect officers. The officers of this corporation shall include a chairman of the board, and a president, both of whom shall be elected from among the nine (9) directors of the corporation; one (1) or more vice presidents; a secretary and a treasurer; and such other officers as may be determined and selected by the Board. Any person otherwise qualified may hold two (2) offices in the corporation except the office of president and vice president, or president and secretary, or president and treasurer, and except that the chairman of the board cannot

otherwise be an officer of the corporation.

The officers shall hold office until their successors are elected at a meeting of the Board called for such purpose and such successors qualify, provided that any office will become vacant upon the death, resignation, removal, or disqualification for any reason of the officeholder. Any officer elected or appointed by the Board may be removed by the Board at any time with or without cause whenever in its judgment the best interests of the corporation would be served thereby, but such removal shall be without prejudice to the contract rights, if any, of the officer so removed. Election or appointment of an officer shall not of itself create contract rights.

3.2. Attendance at Board Meetings. The chairman of the board, and in his absence the president, shall call meetings of the Board to order, and shall act as chairman of such meetings, and the secretary of the corporation shall act as secretary of all such meetings, but in the absence of the secretary the chairman may appoint any person present to act as secretary of the meeting.

3.3. Duties. The principal duties of the several officers are as follows:

(a) Chairman of the Board. The chairman of the board shall, if present, preside at all meetings of the Board and shall exercise and perform such other powers and duties as may be from time to time assigned to him by the Board or prescribed by the by-laws.

(b) President. Subject to such supervisory powers, if any, as may be given by the Board to the chairman of the board, the president shall be the chief executive officer of the corporation and shall have general charge and supervision of the administration and management of the affairs and business of the corporation. The president shall see that all orders and resolutions of the Board are carried into effect. The president may sign, with the secretary or any other proper officer of the corporation authorized by the Board, any deeds, mortgages, bonds, contracts, or other instruments that the Board has authorized, generally or specifically, to be executed, except in cases where the signing and execution thereof shall be expressly delegated by the Board, by these by-laws, or by statute, to some other officer or agent of the corporation; and, in general, the president shall perform all duties incident to the office of president and such other duties as may be prescribed by the Board from time to time. The president shall be required to report to the Board at least annually with respect to the oil spill cleanup activities undertaken by the corporation in the preceding year, the state of readiness of the corporation to clean up oil spills in the future, and such other matters as may be appropriate.

(c) Vice Presidents. The vice presidents shall, in the order of their seniority, discharge the duties of the president in the event of his absence or disability for any cause whatever, and shall perform such additional duties as may be prescribed from time to time by the Board.

(d) Secretary. The secretary shall have charge of the records and correspondence of the corporation under the direction of the president, and shall be the custodian of the seal, if any, of the corporation. He shall give notice of and attend all meetings of the Board. He shall take and keep true minutes of all meetings of the Board of which, ex officio, he shall be the secretary. He shall discharge such other duties as shall be assigned to him by the president or the Board. In case of the absence or disability of the secretary, the Board may appoint an assistant secretary to perform the duties of the secretary during such absence or disability.

(e) Treasurer. The treasurer shall keep account of all moneys, credits and property of the corporation which shall come into his hands and keep an accurate account of all moneys received and discharged. Except as otherwise ordered by the Board, he shall have the custody of all the funds and securities of the corporation and shall deposit the same in such banks or depositories as the Board shall designate. He shall keep proper books of account and other books showing at all times the amount of the funds and other property belonging to the corporation, all of which books shall be open at all times to the inspection of the Board. He shall submit a report of the accounts and financial condition of the corporation at each annual meeting of the Board or when the president or Board so requires. He shall also make such transfers and alterations in the securities of the corporation, if any, as may be ordered by the Board. In general, the treasurer shall perform all the duties which are incident to the office of treasurer, subject to the Board, and shall perform such additional duties as may be prescribed from time to time by the Board. The treasurer shall give bond only if required by the Board. In case of absence or disability of the treasurer, the Board may appoint an assistant treasurer to perform the duties of the treasurer during such absence or disability.

3.4. Compensation. The compensation, if any, of officers shall be fixed from time to time by the Board; provided that the Board may by resolution delegate to any one (1) or more officers of the corporation the authority to fix such compensation.

ARTICLE IV APPOINTIVE OFFICERS AND AGENTS

The Board may appoint such officers and agents in addition to those provided for in Article III, as may be deemed necessary, who shall have such authority and perform such duties as shall from time to time be prescribed by the Board. All appointive officers and agents shall hold their respective offices or positions at the pleasure of the Board, and may be removed from office or discharged at any time with or without cause; provided that removal without cause shall not prejudice the contract rights, if any, of such officers and agents.

ARTICLE V COMMITTEES

5.1. Committees of Directors. The Board by resolution adopted by a majority of the directors in office, may designate one (1) or more committees, including an executive committee, which committees, to the extent provided in said resolution, shall have and exercise the authority of the Board in the management of the corporation. Each such committee shall consist of two (2) or more directors. The designation of such committees and the delegation thereto of authority shall not operate to relieve the Board, or any individual director, of any responsibility imposed on it, him or her by law. The Board shall elect an audit committee of three or more directors (not including the president). The audit committee shall appoint a reputable accounting firm to conduct an annual audit of the corporation, shall review the report of the auditors, and shall recommend to the Board any actions that should, in its judgment, be taken as a result thereof.

5.2. Advisory Boards or Committees. Advisory boards or committees not having and exercising the authority, responsibility, or duties of the Board in the management of the corporation may be designated by a resolution adopted by a majority of the directors present at a meeting at which a quorum is present. Except as otherwise provided in such resolution, members of each such advisory board or committee need not be directors of the corporation, the president of the corporation shall appoint the members thereof, and any member thereof may be removed by the president whenever in the president's judgment the best interests of the corporation shall be served by such removal.

5.3. Term of Office. Each member of a committee of directors or advisory board or committee shall continue as such until the next annual meeting of the Board of the corporation and until his or her successor is appointed, unless the board or committee is sooner terminated, or unless such member is removed from such board or committee or unless such member shall cease to qualify as a member thereof.

5.4. Chairman. Unless otherwise provided in the resolution of the Board designating a committee of directors or advisory board or committee, one (1) or more members of each directors' committee or advisory board or committee shall be appointed chairman, or co-chairman, by the person or persons authorized to appoint the members thereof.

5.5. Vacancies. Vacancies in the membership of any committee of directors or advisory board or committee may be filled by appointments made in the same manner as provided in the case of the original appointments.

5.6. Quorum; Manner of Acting. Unless otherwise provided in the resolution of the Board designating a committee of directors or advisory board or committee, a majority of the whole board or committee shall constitute a quorum, and the act of the majority of the members present at a meeting at which a quorum is present shall be the act of the board

or committee.

5.7. Rules. Each committee of directors or advisory board or committee may adopt rules for its own government not inconsistent with these by-laws or with rules adopted by the Board.

ARTICLE VI CONTRACTS, CHECKS, DEPOSITS AND FUNDS

6.1. Contracts. The Board may authorize any officer or officers, or agent or agents, of the corporation, in addition to the officers so authorized by these by-laws, to enter into any contract or execute and deliver any instrument in the name of and on behalf of the corporation, and such authority may be general or confined to specific instances.

6.2. Checks, Drafts, or Orders for Payment. All checks, drafts, or orders for the payment of money, notes, or other evidences of indebtedness issued in the name of the corporation shall be signed by such officer or officers, or agent or agents, of the corporation and in such manner as shall from time to time be determined by resolution of the Board. In the absence of such determination by the Board, such instruments shall be signed by the president and countersigned by the treasurer of the corporation.

6.3. Deposits. All funds of the corporation shall be deposited from time to time to the credit of the corporation in such banks, trust companies, or other depositories as the Board may select.

6.4. Investments. The corporation shall have the right to retain all or any part of any property, real, personal, tangible or intangible, acquired by it in whatever manner, and pursuant to the direction and judgment of the Board, to invest and reinvest any funds held by it without being restricted to the class of investments available to directors by law or any similar restriction; provided, however, that no action shall be taken by or on behalf of the corporation if such action would result in denial of the corporation's exemption from federal income taxation under the Internal Revenue Code and its regulations.

ARTICLE VII AMENDMENTS

The by-laws may be amended, altered or repealed by a vote of two-thirds (2/3) of the directors of the corporation.

ARTICLE VIII INDEMNIFICATION OF DIRECTORS AND OFFICERS

Directors and officers of the corporation shall be indemnified to the fullest extent now or hereafter permitted by law in connection with any actual or threatened action or proceeding (including civil, criminal, administrative or investigative proceedings) arising out of their service to the corporation or to another organization or enterprise at the corporation's request. Persons who are not directors or officers of the corporation may be similarly indemnified in respect of such service to the extent authorized at any time by the Board of Directors. The corporation may at any time, to the extent authorized by the Board of Directors, take such steps as may be deemed appropriate by the corporation, including purchasing and maintaining insurance, entering into contracts (including, without limitation, contracts of indemnification between the corporation and its directors and officers), creating a trust fund, granting security interests or using other means to insure the payment of such amount as may be necessary to effect such indemnification. Neither the amendment nor repeal of this Article VIII shall affect any right of protection of a person with respect of any act or omission occurring prior to the time of such repeal or modification. The indemnification provided by this Article VIII shall not be deemed exclusive of any other rights to which a director or officer or former director or officer may be entitled under any by-law, agreement, insurance policy or otherwise.

ARTICLE IX MISCELLANEOUS

9.1. Fiscal Year. The fiscal year of the corporation shall be fixed by the Board.

9.2. Books and Records. The corporation shall keep correct and complete books and records of account and shall also keep minutes of the proceedings of its Board and committees having any authority of the Board.

9.3. Invalid Provisions. If any part of these by-laws is held invalid or inoperative for any reason, the remaining parts, so far as is possible and reasonable, shall remain valid and operative.

9.4. Headings. The headings used in these by-laws are for convenience only and do not constitute matter to be construed in the interpretation of these by-laws.

9.5. Gender. Wherever the context requires, all words in these by-laws in the male gender shall be deemed to include the female gender, all singular words shall include the plural, and all plural words shall include the singular.

9.6. Seal. The Board may provide for a corporate seal.

9.7. Legal Authorities Governing Construction. These by-laws shall be construed in accordance with the laws of the State of Tennessee. All references in these by-laws to statutes, regulations or other sources of legal authority shall refer to the authorities cited, or their successors, as they may be amended from time to time.

CERTIFICATION

The undersigned hereby certifies the foregoing is a true and correct copy of the By-laws of Marine Spill Response Corporation, a Tennessee non-stock, nonprofit corporation (the "Corporation") adopted by the Corporation on the ____ day of _____, 1990.

Secretary

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